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## ORIGINAL ARTICLES.

### MEDICAL EDUCATION IN COLORADO.

BY S. G. BONNEY, A.M., M.D.,

OF DENVER, COL.;

DEAN OF MEDICAL DEPARTMENT AND PROFESSOR OF MEDICINE  
DENVER AND GROSS COLLEGE OF MEDICINE, DENVER UNIVERSITY.

IN one of the choicest essays ever contributed to medical literature, entitled "Chauvinism in Medicine," William Osler speaks of the "art of detachment as that rare and precious gift which enables one to separate himself from his environment and to take a panoramic view of the conditions under which he lives." Is it not well for the profession of Colorado employing this art of detachment, to undertake a philosophic view of its lights and shadows, its present realities and future possibilities?

The trend of the profession is directly dependent upon the thought and work of medical education. Educational influences alone mould the character, determine the proportions and direct the future of the body medical. These influences are not to be referred entirely to medical schools, but to a certain degree may be said to surround the practitioner throughout his active career, from close association with the state society and other medical organizations. To the medical educational institutions, however, there must be accorded a predominant influence upon the real tone and vigor of the profession, as well as a representation in part of its true sphere in the sociological scale. It is then to medical education in the schools of Colorado that attention may be justly directed. Unpleasant as the task may eventuate it is apparent that the time has come for the profession of the state to confront certain essential and relevant facts, and take due cognizance of their significance.

In order more clearly to appreciate our relative position it is necessary to consider at some length the general status of medical education in the United States. The real object and scope of medical schools throughout the country is of necessity changing with the varying conditions of our national civilization. The remarkable advance in medical knowledge has demanded corresponding changes in the manner and extent of imparting instruction, as exhibited in the four years' graded and systematic course of study, the increased minimum requirements for admission, the great enlargement of the curriculum by the introduction of new branches and methods of study, the increased attention to various kinds of laboratory work with opportunity afforded for the acquirement of precise scientific information capable of actual demonstration and the amplifica-

tion of the hospital and dispensary facilities with the patient rather than the disease, furnishing the text and inspiration.

Up to this point the majority of the medical schools of the United States in so far as opportunities permitted, have endeavored with varying degrees of good faith and exactitude, to keep step with the onward march of medical education. Assuredly the two medical schools of Colorado have not been lacking in an earnest desire to remain "en rapport" with the recent advances and in a sustained effort to elevate the standard of higher medical education within the state. Speaking for the Denver and Gross College of Medicine, it is asserted that all the advanced methods of teaching medicine are observed in the course of study and that all provisions embodied in the curriculum in conformity with the requirements of the Association of American Medical Colleges are rigidly and conscientiously executed.

Coincident with the pedagogic advances in medicine during the past decade there have also taken place marked changes in the general sociologic and economic conditions relating to medical practice. As a result radical innovations have been inaugurated in some of the larger institutions of medical learning which have not as yet been incorporated in the medical schools of Colorado, and which may be said to constitute a vital change in the policy and purposes of all institutions adopting them. While many of these changes are directly in line with the progress of modern medical thought and are alike indicated in the interests of the medical profession, the medical student and the community, they none the less aim at the very root and life of some of the smaller institutions. An explanation of the recent agitation is found in the supposedly unhealthy conditions of medical education due to the alleged multiplicity of medical schools resulting in a so-called oligarchy and in the apparent superfluity of medical students.

It must be admitted that during the past twenty years the number of medical schools in the United States has nearly doubled, and despite the elevation of standards and higher requirements the number of students during this period has increased one hundred per cent. Billings has recently pointed out that the present average is one physician to every six hundred people, and that with the natural increase of our population together with deaths in the profession, there is reasonable opportunity based on this proportion for the accession of three thousand graduates annually. The fact exists that nearly twice this number are actually graduated and also that the proportion of one to six hundred is regrettably high.

Based upon such a showing it is to be expected

<sup>1</sup> Read before the Colorado State Medical Society, in Denver, October, 1904.

that the popular demand should be for fewer medical schools and fewer but better educated doctors. Accordingly the dictum virtually has been promulgated on the part of some of the larger institutions that the moral right of existence be denied some of the smaller schools. In so far as this condemnation and stamp of disapproval applies to institutions existing, not because of a valid need but flourishing as a public and professional menace, there can be no honest difference of opinion among medical educators.

With inferior teachers and entire absence of proper facilities these ventures in the past have frequently proved not unprofitable as commercial enterprises, the principle having been the maximum production at the minimum expense. Such factories unfortunately have been furnished with sufficient raw material to keep the plant in operation and foist the inferior product of the wretched machinery upon society. It is well known that the number of these bastard medical schools already has diminished materially. There remain, however, many comparatively small institutions of recognized merit and established reputations with accorded honesty of purpose and highest motives, together with suitable equipment of teachers, buildings and apparatus, and with ample clinical advantages. Some of these honorable institutions have enjoyed prolonged periods of usefulness and are now striving zealously to uphold the standard of medical education.

Their distinctive sphere and high order of working ideals is beyond question. Recognized advantages do accrue from the more intimate contact of professors and students, the close relationship permitting such interchange of thought as more perfectly to awaken incentives and inspire highest endeavor. However, it has been intimated that the life of these institutions is seriously threatened if they attempt to conform in fullest measure to the advancing standards of medical education. The reason may be ascribed to exist in the lessened revenue from tuition resulting from the diminished number of students and the greatly increased expense, both of which conditions are presupposed to obtain from the higher requirements and advancing scope of modern medical institutions. It is well to inquire more particularly into the rationale and validity of these premises.

The overcrowding of the profession incident to the multiplicity of medical schools constitutes a factor in the problem of medical education worthy of most serious thought by those who, in official positions, have to assume a portion of the responsibility in graduating classes still further to swell the ranks and increase the competition.

The responsibility of medical schools attaches to the students whom they receive and graduate, and to the community at whose doors the foundations in medicine are wantonly abandoned. The student has the right to expect after the expenditure of considerable money and years of hard and faithful preparation, a reasonable opportunity by virtue of his training and actual fitness to provide

for his family and secure ultimately a satisfactory competence. The public is entitled to the belief in the thoroughness of the student's preparation, the character of his moral attainments and the high degree of his fitness to fulfill the exacting requirements and assume the responsible obligations of his profession.

It would seem to be in line with medical progress to place such rigid restrictions upon the course of study as greatly to diminish the number of graduates and at the same time to increase their practical proficiency. Yet despite the constantly increased requirements in many of the schools, the lengthening of the course, the added cost of securing a medical education, the appreciation of the utter impossibility of attaining proficiency in all of the branches owing to the enormous mass of medical knowledge, notwithstanding, also, the repeated warnings of the profession as to the uncertainties of success in practice, there yet appears to be an actual increase in the number of students who matriculate each year. "The large number of young men who in the face of these discouragements are willing and anxious to undertake the laborious task of systematic medical study, implies a certain change in the motives and aspirations of at least a portion of the more liberally educated students of to-day. Some are anxious to begin the study of purely scientific aspects of medicine with its opportunities for original research and investigation, while others are attracted early to the possible attainment of special knowledge and skill in certain departments in the hope of teaching as a life work, or subsequent contributions to the science of medicine rather than to the practice of the art or to the acquirement of a lucrative income."<sup>1</sup>

This has involved the appreciation on the part of the faculty and trustees of some of our medical schools that the true province of such institutions is not simply to graduate working doctors but also to educate physicians of culture in its broadest sense, a sense by no means purely technical. It follows that the real mission of a modern medical school should be sufficiently comprehensive to provide for the rendering of post graduate instruction, and to afford opportunity for the pursuit of original research by certain of the faculty and by students who may elect so to do. One of the working ideals of such an institution should be toward the possible enlargement of the practical application of pure science, the investigation of new discoveries and the proper interpretation of new phases of medical learning.

The educative influence and the beneficence of such an institution, not only upon the profession but upon the community, is entirely beyond the powers of description. If then the purposes of a modern medical school are along the lines that have been suggested, supplementary to its traditional work of educating practising physicians, it is recognized that the fulfilment of its mission involves the necessity of fundamental changes,

<sup>1</sup> "Internal Medicine: To What Extent Required or Elective in the Medical Course." By the author.



though these changes need not necessarily be sufficient to effect a complete transformation in its internal economy.

Actual statistics do not show that either the revenue from tuition or the number of students is likely to diminish on account of the increased requirements for admission. It becomes apparent that the small medical schools of high standards will suffer no material loss from this cause and that the opportunities for success in practice by virtue of a desired lessened competition are not to be thus improved. As in the past it will ever remain, among the young practitioners, a simple question of the survival of the fittest. Without resorting to invidious comparisons, it may be further added that the fittest do not always emerge from the largest institutions. It is asserted then that, so far as relates to entrance requirements, the smaller schools without fear or prejudice to their own interests may cooperate to an equal degree with others in an effort to raise the present standards.

If there be perfect sincerity of purpose and earnest enthusiasm for the uplifting of medical education it is apparent that perfunctory conformity with the requirements as laid down by the Association of American Medical Colleges is insufficient for the accomplishment of the best results. Anyone at all familiar with medical educational affairs is undoubtedly impressed by the frequent evidences of laxity and bad faith concerning entrance requirements on the part of even some of our larger and apparently prosperous institutions. It is evident from the very nature of the conditions that they admit of such elastic application on the part of interested and partisan examiners as virtually to deprive them of much of their actual value. It is suggested that the examinations should be conducted by disinterested, unprejudiced and competent educators having no connection with the institution, and that there should be a uniformity of entrance requirements in different States, together with at least an approximate understanding as to the subsequent grading of instruction. This much-to-be-desired advance can best be brought about by legislative enactment placing the matter of entrance examination and systematic teaching under the control of a state board of medical examiners, acting under the supervision of and in conformity with a national organization. Such a course can in no wise lower the standards of reputable institutions that are already inspired to maintain a high order of entrance requirements, and it will surely dispense with the flexible and shameless morals of others. As to the second proposition, viz., the greatly increased expense incident to conducting a modern medical school, it must be admitted as has been suggested by others, that under the new and higher régime of medical instruction the proprietary school, save under exceptional circumstances, is greatly handicapped by lack of proper facilities in its effort to keep pace with the advances instituted by the university schools.

The actual cost necessary to provide oppor-

tunity for a legitimate medical education is increasing at a prodigious rate. In view of this it requires no prophet to show that the medical school of the future without financial assistance and support will be unable to exist if its ideals are high and its purposes progressive. Medical schools have long ceased to be a profitable business proposition, as any yearly surplus, if such exists, usually reverts to the school in the way of further equipment, and this in the face of the fact that the teachers devote time and energy unrestricted without compensation. The increasing cost of maintaining reputable and honored institutions is incident to the necessity of larger buildings with more complete laboratory equipment and apparatus. More important than this is the salary of certain of the faculty who should be compelled in progressive institutions to devote a large portion if not all of their time to the school. This, of course, refers more particularly to those teaching some of the scientific branches of the first and the second year. The nature of the work demanded in the various laboratories is such as to command the undivided time of the teacher and entitle him to a just compensation according to his ability and attainments. There can be no question that the success and usefulness of any school will depend to a large extent upon the character of the scientific work in the early part of the course, and this involves a large outlay for experienced and competent instructors devoting their entire time to their several duties. The number of such instructors is necessarily larger, in proportion to the number of students, than formerly on account of the necessity for individual or group teaching.

For the foregoing reasons it must be clear that in order to meet the demands imposed by the changed conditions of medical education, relief must be sought in one or two ways, first, from a close university connection, or second, if the autonomy of the medical school is to be preserved, by provision for its separate endowment. As to the matter of university affiliation, the real value to the medical school in this connection consists in the substantial aid resulting from the closeness of the relations, the control of the financial affairs, the assumption of the obligations and the guarantee of the future. Thus it is that nestling under the wing of *bona fide* universities offers to the medical school its protection, its most complete usefulness and its greatest permanency.

Nominal connection with a university avails nothing and passes for what it is really worth, a cheap subterfuge. In what way does it profit a medical school, as suggested by Dobson, to be denominated the medical department of a university embracing in its catalogue beside its department of liberal arts, one of medicine, dentistry, pharmacy, law, music, etc., the extent of which connection is summed up by its catalogue announcement to this effect and the appearance of its presiding officer once a year to confer degrees and make an address? With each depart-

ment maintaining its separate board of trustees and in absolute control of its apparatus and finances it is difficult to perceive the influence for good resulting from such an alliance. Unless the relations are more close and mutually reciprocal with the university extending financial and moral support to the department from which it derives its largest quota of students and which furnishes the basis for its claims for prosperous usefulness, the medical school is placed in a far better position by standing substantially upon its own intrinsic merits as an institution purely of medical learning.

Another advantage resulting in an actual university connection is claimed in the opportunity offered for the so-called "telescoping" of a part of the medical studies with those of the university, thereby permitting the shortening of the time devoted to academic and medical preparation by one or two years. The manner in which it has been advocated that this be accomplished is of somewhat variable character.

This phase of the subject of university connection is of vast importance and worthy of most thoughtful consideration even in those institutions where it is easily practicable. In its fullest interpretation, viz., the conducting of the first two years of medical instruction within university walls as a part of the work for an A.B. degree, it must be recognized that it presupposes the advantages of an education purely technical, to the exclusion of that broad and liberal culture derived only from college association and training.

This conception of the early invagination of the academic and medical courses is clearly in direct opposition to the spirit claimed by its adherents, to the effect that two years' association with college men in a university is reflected in added culture and refinement accruing to medical students. If such is the effect of the university atmosphere and if it is necessary to raise the standards of admission, and if the two leading medical schools of the United States, Harvard and Johns Hopkins, have had the courage to demand a full A.B. degree based upon clinical and scientific requirements, wherein is the strength of the position taken by Rush that the preparatory training can be shortened by half and still retain the broadening influences of a college course or maintain an equal standard of excellence in its requirements? If two years' association with college students while engaged in scientific medical study and necessarily deprived of the most valuable portion of a college course is a good thing, then the entire preliminary training is surely better and productive of a higher type of education. While institutions adopting the telescoping plan are entitled to great commendation for progressive thought and action, and while their course is a distinct advance over previous requirements, the fact seems clear, nevertheless, that this position is not sustained by the argument that a part can be equal to the whole. It seems to remain a matter of reasonable doubt, however, if a shortening by one year of the time of preliminary col-

lege training might not be effected without very materially detracting from the sufficient preparation of the student for medicine. This thought is emphasized by the growing tendency to specialism rising from the popular and professional demand on account of the enormous mass of medical knowledge.

Even to these, however, it must be insisted that the chief factor in advancing the science and art of medicine has been, not only the high degree of special attainment, but also the underlying basis of broad fundamental knowledge.

As to the endowment of the medical school of the future with or without university connection, let the proposition be now advanced that there exists no moral obligation upon society greater than this. Viewed either from the standpoint of true philanthropy or mere commercial instinct there can be no more valid claim for financial support. In no other department of human endeavor have there taken place such astounding advances, with such unspeakably beneficent results as exhibited even in the past fifty years of medical progress. What accomplishment in the centuries past has so resulted in the lessening of suffering as the discovery of anesthesia? What has so lengthened the span of existence as the recognition of asepsis? Can any appeal to society savor more of pure benevolence than that which has for its purpose the saving of life and the relief of pain? In what manner has there ever occurred such preservation of communities as has resulted from the study and investigation of yellow fever, typhoid fever, diphtheria, cholera, bubonic plague and malaria? Has anything been more intensely practical than the municipal application of the principles of modern sanitation? Is there offered to society any better return upon the investment than that from which it derives its protection and permanency?

The recent achievements in medicine are sufficient, as Osler remarks, "to make even the angels rejoice," and it may be added also are all contributory to the suicide of the purely business aspects of the profession, and these have resulted from the labors of medical men with the facilities and incentives afforded by medical schools. Who can state that the final achievement has already been attained in the evolution of medical progress? Who can tell what the future has still in store as a result of further stimulation to medical science and investigation? The debt of society to medicine is indeed great and the fact that it is not more duly and fully appreciated must be construed in part to the apathy of the profession itself. Should not medical institutions justly look to the communities which are favored by their presence for an equitable measure of assistance and support?

The obligation is equally great upon the profession of any locality to extend to its reputable medical schools its legitimate aid and loyal support. It should be incumbent upon all those actively engaged in the cause of medical education to solicit financial aid for the institutions which



they represent from the wealthy with whom sufficiently close relations may be enjoyed. There can be no difficulty about the suitable endowment of these medical schools worthy of patronage provided a proper enthusiasm and an earnest devotion be manifested by its faculty.

Apropos of the foregoing remarks it may be inquired to what extent and in what manner the medical schools of Colorado, and through them the profession of the State, may profit by the thought and effort that has been exhibited by educational institutions in other States.

While the profession of Colorado may not be in a position to take the very lead in matters of medical education, it can be asserted confidently that she is abundantly able to follow in the footsteps of some of the older States. It may not be out of place to assert that already a distinct advance in medical education within the State assuredly has taken place. Two of the older medical colleges of Colorado, each of which had previously enjoyed a successful, useful and honorable career, have effected recently a harmonious consolidation, the prime motive and inspiration of which existed in a conscientious effort to elevate the working ideals of medical education in our midst. In this the beginning of its second term, one is enabled to look back-upon a year of faithful endeavor, a period of unbroken harmony and perfect concord, an absolute community of interests among its faculty and an increasing influence among the profession.

What is the legitimate *raison d'être* of a medical school in Denver? Such an institution has an especial right to exist and a claim for support by virtue of the extent of higher scientific and practical work being accomplished by its faculty, its geographical position and the actual needs of the community. Denver is rapidly becoming more and more a medical center on account of its obvious climatic advantages. Thither are attracted an increasing number of highly educated physicians who previously have enjoyed special opportunities for study and research and already achieved distinction in their respective departments. There has resulted a grouping of well equipped observers, a larger corps of trained educators than can be found in any other city of this population in the United States. The character of medical educative thought and work in the city of Denver has obtained a merited national recognition. This working capital of medical culture and experience is being utilized for the benefit of young men in medicine and for society. It offers opportunity for a large number of medical students whose education in other schools located in relatively unfavorable climates has been interrupted by virtue of ill health to complete their education in Colorado and enjoy ultimately the fruits of their previous labors.

The Denver and Gross College of Medicine, although maintained under a separate charter and distinct board of trustees, enjoys, nevertheless, a close and direct affiliation with the University of Denver, from which connection material ad-

vantages constantly accrue. In order to impose greater requirements to admission and further advance the cause of medical education in line with the progress exhibited in other schools it will be necessary first to secure suitable endowment. The University of Denver, now beginning the era of her prosperity, undoubtedly will respond in the way of financial assistance, as opportunity presents itself for increasing the usefulness of her medical department and in the institution of a coherent and graded course for those contemplating medicine which will look toward the shortening of the combined academic and medical course by one year, and at the same time relieve the medical department of the expense of conducting its first year in medicine by high-salaried teachers.

There exists still another medical institution within the State, sustained partly by State aid, enjoying the patronage and backing of a strong university and possessing in this way exceptional facilities for its preparatory work of the first two years. Its greatest usefulness is curtailed largely by its mandatory location in a small community where to some extent it is deprived of clinical advantages for junior and senior students.

There is another useful and extremely successful educative institution but without a medical department, whose able corps of professors and laboratory facilities could be augmented easily to provide adequate instruction by paid teachers during the early portion of a medical course, but which would still be without the necessary clinical advantages to be found in a large city like Denver.

The thought is suggested, Is it too much to hope that in the fulness of time the relations between the several institutions in Colorado could be so amicably and satisfactorily adjusted as to permit the existence of a single medical school, not necessarily in direct affiliation with any university but enjoying such close and pleasant relations with every educational institution of the State as to permit in cooperation with each, the conducting for all students of the practical clinical work of the latter part of the medical course in Denver, where alone proper facilities can be found? In this way alone can we hope to rise materially from our present level and place the educational status of the medical profession upon the plane where it can best and most truly represent the State. When the logic of time shall have sufficiently wiped out all differences and local prejudices so as to disclose clearly the wise application of one supreme allegiance, and that to the profession which we represent and whose standard we are striving to elevate, then will it be comparatively easy to secure such legislative enactment as will place the control of medical educational affairs within the hands of a State board subject to the will and approval of the profession, and then will inevitably follow a State law controlling the practice of medicine. There will then result a closer bond of union between the medical schools and the various medical societies and or-

ganizations including the many hospitals, State and municipal boards of health. Thus each being the creation and representative of the profession, a loyal devotion to its own interests would result in the appointment to all important medical offices and hospitals with reference to special fitness for administration or teaching and not as a mark of political or other preferment.

The position of the medical profession in Colorado is at this time distinctly unique, but it is within its power to assert itself by strong and mutually sympathetic effort to raise the standard of medical education and set an example which many of the older States can well afford to emulate.

#### A CONSIDERATION OF THE QUESTION OF DRAINAGE IN CASES OF ACUTE APPENDICITIS WITH SPREADING PERITONITIS.<sup>1</sup>

BY LUCIUS WALES HOTCHKISS, M.D.,  
OF NEW YORK;

SURGEON, J. HOOD WRIGHT MEMORIAL HOSPITAL; JUNIOR SURGEON, ROOSEVELT HOSPITAL, NEW YORK CITY.

ALTHOUGH the treatment of acute appendicitis by early operation, or in the so-called interval, is highly satisfactory, a study of the statistical tables of some of our largest hospitals show, in the gangrenous and perforative forms of the disease, and in those cases in which a rapidly spreading purulent peritonitis is a complication, results which are often disappointingly bad, a high mortality and that the views of various surgeons as to proper methods of procedure are at considerable variance.

During the past nine years in a small though somewhat active emergency hospital service, the writer has been called upon to treat a number of the more serious forms of appendicitis and to struggle with the problems presented by each. In looking back over his earlier work and in trying to explain why his methods of attack and defense have gradually altered, and in trying to find out if possible why the operative mortality in his hospital service has decreased so considerably, only one conclusion can be reached. Of course it is perfectly possible for a surgeon to have a run of good fortune or to secure a long list of carefully selected cases with a very low mortality.

In an active hospital service, however, where, as a rule, the worst cases are seen, and where "late" operations are rather the rule than the exception, in justice to oneself it becomes necessary to find out how much of the improvement in results is due to good luck, and how much to good management. An examination of the records of my own operative work in appendicitis at the J. Hood Wright Hospital, for the past nine years has proven highly instructive to me, and, with the hope that it may not be entirely without interest to you, the writer asks your attention to his method and your criticism of his results in a class of cases which are everywhere taxing the best energies of surgeons.

<sup>1</sup> Read by invitation before the Surgical Section of the Buffalo Academy of Medicine, March 1, 1904.

From January, 1895, to January, 1903, 114 cases have come to operation in the writer's service at the above-named hospital. From 1895 to 1898, inclusive, 42 cases were operated upon, with 13 deaths, a mortality of about 31 per cent., and from 1899 to 1902, inclusive, 72 cases were operated upon, with no mortality. Whole mortality being a little less than 11½ per cent. These cases can all be verified in the hospital records and constitute an unbroken series of operations in the writer's service of four months each year, together with such odd cases as have been operated upon by him at other times in the same years at the same hospital.

During the first period from 1895 to 1899, the character of the cases was about the same as during the later period, and operation was done in every case with a view solely to the relief of the patient and not with reference to the mortality statistics of the operator or the hospital.

In going over in his mind the changes, and, as he believes, the improvements in technic, which have gradually taken place, the writer is forced to believe that in the earlier years, in the efforts to save these desperate cases, too much traumatism was unwittingly inflicted, and too little attention paid to the efforts of nature in the same direction.

In the first series of 42 operations from 1895 to 1899, 8 cases were classed as acute appendicitis, with no deaths; 3 as acute catarrhal, no mortality; 4 were chronic recurrent, no mortality; 1 an "interval" case, no mortality; 7 were acute suppurative with abscess, 1 death. One of these cases in a second acute attack was operated upon for the removal of the appendix and recovered; 7 were gangrenous with 2 deaths—1 being from acute pneumonia, in thirty-six hours. 12 were cases of rapidly advancing peritonitis with free pus in the peritoneal cavity, and of these 11 died.

In the second period from January, 1899, to January, 1903, the records show 72 cases operated upon in my service. Of these, 15 were acute; 7 were chronic; 2 were "interval" cases; 1 suppurative, no perforation; 5 suppurative with abscess; 26 gangrenous with and without perforation; 1 tuberculous; 15 gangrenous, with advancing peritonitis.

Of these 72 cases, there was a very large proportion of "late" operations and of very serious cases of the gangrenous and suppurative forms, besides the 15 cases of spreading peritonitis, to which your special attention is called.

That there was no mortality in the last class, seems to the writer suggestive at least of the attainment of a better and safer technic than in 12 similar cases of the first group wherein but one recovery is recorded. In these earlier cases the operator was conscious of striving to do all that could be done and all that generally was done by other surgeons at the time, with whose work he was familiar, and the results matched fairly well the results in other hospitals with which he was at the time connected.

At first the methods which he now employs were rejected as entirely unsafe and unsound, but



the writer has gradually been forced to abandon his original position and has amply demonstrated, at least to his own mind, the great value of the smaller incisions, of the location and removal of the appendix largely by the sense of touch, which does away with over much exposure and handling of the intestines, the free irrigation of the peritoneum with hot normal salt solution, depending upon this rather than drainage and the removal of the diseased appendix in every possible case. This radical departure, in practice, has been so gradual, that the steps cannot always be analyzed. Results seem certainly to justify the change in technic, although the writer is free to confess that not without a struggle has he accepted and adopted measures which, but a few years ago, he looked upon as dangerous and unscientific.

Modern experimental investigation has abundantly demonstrated the marvelous power of the peritoneum to deal with infection. The introduction of pure cultures of pyogenic organisms does not cause fatal peritonitis and sepsis unless there be an overwhelming dose, or the local resistance be lowered by traumatism, or the presence of an irritating foreign body. Clinical experience has repeatedly attested the truth of these experimental researches and if it were not so, abdominal surgery would long since have ceased to flourish. In acute progressive appendicitis, nature strives to wall off the diseased organ by a barrier of plastic exudate and throws out a powerful second line of defense against general infection by bringing about marked hyperleucocytosis. As Clark has well said, "the safety of the patient in the early stage of peritonitis depends not only upon the quick delivery of serum and leucocytes into the peritoneal cavity but also upon their rapid exit." "There are no blood vessels within the body," to quote the same author, "capable of such quick action in this physiologic function as those of the omentum." And further on he says "the index of lethality in experimental infections may be judged from the varying degrees of leucocytosis. Where an excessive increase is followed by a rapid decrease of leucocytosis with increasing gravity of symptoms, this indicates that the toxicity of the organisms has overcome all phagocytosis or germicidal power of the blood serum and a fatal result will ensue."

The analogy between acute infective appendicitis and the experimental introduction of germ cultures into the belly in the presence of a foreign body, is more or less perfect. Nature attempts at first to encapsulate, then to destroy, dissolve and carry away the offending body. In the case of blood clots, pus, fibrin exudate, and smaller foreign bodies, she may be fully equal to the task.

In the case of the gangrenous appendix, however, the task is, as a rule, too much for the natural physiological processes to accomplish, unaided. Under these conditions the attack of the organisms upon the defensive forces of the peritoneum, may be so sudden as to overwhelm them; or, if this does not occur they may be more gradually overcome by the rapidly increasing attacking

forces battering down the first line of defenses and establishing secondary foci, from the combined action of which the secondary defenses may be overwhelmed and the patient destroyed. What then should be our method of treating these cases of advancing peritonitis, due to an infected appendix? Obviously the first thing to do is to remove the focus of infection, the appendix, and to do it in such manner as not to cripple the inherent power of the peritoneum to deal with such toxic products as must necessarily be left behind. The infected peritoneal cavity cannot be made absolutely clean by any known method, and, recognizing the fact that in removing the diseased appendix, we have removed the principal bar to recovery, we must acknowledge the inutility and the danger of attempting to obtain perfect peritoneal drainage through the medium of gauze packing between intestinal coils or by means of the drainage tube.

We are thus driven to rely upon the normal physiological power of the peritoneum to extricate us from our difficulty. The clinical work of Morris, the experimental and clinical work of Clark, and, more recently, the work of Blake and other surgeons, who are beginning to rely upon the natural protective forces of the human organism to solve the difficult problem of peritoneal drainage, should give us courage to proceed along these lines. During the past few years, the writer has grown to rely almost wholly upon the flushing of the peritoneal cavity with hot normal salt solution, rather than upon any method of external drainage. Long before its real value was appreciated he had relied upon it to combat shock in severe operations and to dilute and carry off the toxins in the various toxemias which occurred in the course of his surgical work.

A reference to the group of cases which is appended will attest the frequency and extent with which peritoneal irrigation with hot decinormal salt solution has been employed. For the past five years or more the writer has used the muscle-splitting incision of McBurney, as a method of approach in most of his cases of acute appendicitis, even in many of those accompanied by widespread suppurative peritonitis. On the whole it has proven adequate to the work; and, in connection with the Weir extension through the posterior rectus sheath, offers a sufficiently wide exposure to do most of the necessary work required. In some cases, however, where a gangrenous and suppurative process has extended up behind the colon to the region of the liver, a counter opening in the loin has been made and local drainage carried on through this. Extensive gauze packing after operation has been abandoned, and local drainage of the wound and of the site of the principal focus of infection, when deemed necessary, has been carried on by small wicks of gauze wrapped in rubber tissue. The peroxide of hydrogen solution has proven valuable in cleansing the abscess cavity about the appendix and in loosening somewhat the adhesions about the organ and in making its delivery

by touch somewhat easier. Where the appendix is retrocecal and largely retroperitoneal it can be located by the sense of touch, standing out in low relief upon the posterior wall of the cecum; its base is located by following the longitudinal bands and developed by incisions through the peritoneum on either side of it, it is then ligated, divided and delivered, working from the proximal end outward.

When free pus is found in the peritoneum no attempt is made to wall off the appendix from the rest of the cavity by pads, but the organ is delivered as rapidly as possible, largely by the sense of touch, its mesentery ligated and divided in the usual manner, and its base pulled up together with the cecum into the wound, ligated, excised, and the stump turned in by purse-string sutures, often with the addition of a Lembert stitch. After the removal of the appendix, which is accomplished with as little traumatism as possible to the surrounding intestines, the pelvic cavity, the lower abdomen, and, in many cases as much as possible of the general peritoneal cavity, is flushed thoroughly with hot decinormal salt solution, through a large tube, or by pouring in from a pitcher, until the back-flow appears fairly clean. No attempt is made to sponge the peritoneum dry and considerable fluid is always left behind. The peritoneal wound is either closed entirely, as in my later cases, and the external wound drained; or, as has been the custom in most of the earlier cases, a small cigarette drain has been passed to the appendical site and sometimes to the bottom of the pelvis. Inasmuch as nearly all the wounds from contact have become infected with the gangrenous appendix, apparently with the same organism which has caused the appendical inflammation, it cannot be considered proper to close the external wound without providing for drainage. It has become evident to the writer from a number of observations that the cigarette drain which extends into the peritoneal cavity acts mainly as an external wound drain, since he has repeatedly noticed that the peritoneal cavity outside a very small area is rapidly shut off and no longer comes within its radius of action.

Relying upon these observations the drain has practically been eliminated as a factor of any importance in the treatment of spreading peritonitis, except in so far as it acts as a drain for the external wound, which, in most of these cases, is an infected wound and heals by granulation. The paper of Clark and Norris, on "Peritoneal Saline Infusions in Abdominal Operations," combining as it does the results of clinical study and laboratory experiment, draws the following conclusions: First, the use of salt infusions does not increase, but unquestionably minimizes the danger of pyogenic infection. Second, in addition to reduction of mortality, the convalescence of the patient is rendered infinitely more comfortable and satisfactory through the reduction of thirst, the increase in the urinary excretion and the minimizing of vesical irritation. With these conclusions

the clinical experience of the writer entirely agrees. Long ago we have noticed in patients who have had saline infusions either by the vein, the rectum or the abdominal route or by hypodermoclysis, a very rapid disappearance of the odor of ether from the breath, and marked increase in the urinary secretion. The after-treatment of cases of spreading peritonitis is of the greatest importance, and upon the faithfulness and the intelligence with which it is carried out the life of the patient depends. As a routine measure, the stomach is washed out thoroughly before the patient has left the operating table and one or more ounces of the saturated solution of Epsom salts is introduced through the tube and allowed to remain. The rectal tube is passed at the end of six hours and a simple enema or an enema of salt solution is given. Opium is not used.

For the discomfort, dyspnea and distress, due to abdominal distention and upward pressure upon the diaphragm, elevation of the head of the bed may give relief, or this, in connection with gastric lavage, will often tide the patient over the first few hours of suffering. Enemata at intervals of six hours are used as a routine measure for the first two or three days, and an attempt is made to secure a passage of gas or a movement within the first twenty-four hours. Persistent distention is combated by the stomach tube through which Epsom salts may occasionally be introduced, and by enemata of oxgall, repeated as may be necessary.

The possibility of early intestinal obstruction should always be remembered in these cases of persistent vomiting and in several such cases which have been under my notice an exploratory operation has revealed this condition, and relief obtained by removal of the obstruction, which is generally due to a band, volvulus, or kinking of the gut.

Of course, when the toxins are diluted by the saline irrigation and hurried into the blood stream, a tremendous strain is brought upon all of the excretory organs, and in those cases where the kidney function is badly impaired by previous disease, an important avenue of elimination is at once removed and the patient frequently succumbs. Three cases of this sort have come within my own experience and all have died.

In one of the series of cases herein reported, secondary collections of pus formed during convalescence and required two later operations. The same complication has been observed by the writer in four or more other cases not reported in this paper.

In each instance, however, this probably could not have been prevented by gauze packing or drainage since in these very cases the additional exposure and handling would, in the opinion of the writer, have been sufficient to destroy all prospect of recovery, which eventually took place in every case, after one or more additional operations. It has been noted also that intestinal obstruction has occurred in several cases under the



same conditions and while it had formerly been my belief that most of these cases are caused by wide gauze packing between intestinal coils, I am forced to the conclusion that the condition perhaps quite often occurs in cases where no gauze drainage has been employed and is due then rather to the extent, character and intensity of the original peritonitis.

Eight cases of this complication have come under my care, and in seven recovery has taken place. The fatal case was one of very early obstruction with advancing peritonitis and sepsis which was uncontrolled by operation. Four of these cases formed the basis of a paper read by me before the N. Y. Surgical Society in 1901. In reviewing the cases of spreading peritonitis herein reported, attention is called to the fact that the term is applied only to those cases in which free purulent fluid was found in the peritoneal cavity. I agree entirely with Blake in his statement that the classification of purulent peritonitis, based upon the specific nature of the bacterial invasion, is not so important, from a practical standpoint, as that based upon the progress and extent of involvement of the peritoneum. It will be found on looking over the histories of the fifteen cases of spreading peritonitis which form the basis of this paper, that the extent of the peritoneal involvement varies rather widely. In five, which may fairly be classed as cases of diffuse peritonitis, the limits of the inflammatory process were not definable.

In four, as where the operation was done earlier, the peritonitis though more or less extensive had fairly definable limits; while in six, the pus was practically limited to the pelvis and right lower abdomen. These latter are the simpler cases and should have, ordinarily, a lower percentage of mortality. It should be noticed also that the appendix was removed in every case. This I have found easier to accomplish with growing experience in the cultivation of the sense of touch in locating and freeing the organ.

It is surprising how much can be accomplished in this matter through a comparatively small incision, and with what very little traumatism to the adjacent intestines. Upon this method of procedure, in fact, the writer has come largely to rely for the performance of rapid and effective work, and regards it as a most important factor in the technic of the operation.

In conclusion the writer wishes expressly to disclaim any originality of method or to intimate that there is anything remarkable in his results. The series of consecutive cases which are used have been taken from the records of a single hospital, where fairly uniform conditions prevailed. During this same period, however, similar methods have been constantly employed in other hospitals and in private work with increasing confidence, and the writer has every reason to feel strengthened in his position with widening experience.

The good results, may, in a measure, be due to the fact that all the patients were young, or at

least comparatively so. All but three were males. Seven were twelve years or under, five were between eighteen and thirty years, two were thirty-eight years and one forty-one years old, a general average of 15.4 years.

One of the facts which has most impressed the writer, is the shortening of the period of hospital treatment. In the 23 cases operated upon in 1902, for example, the average duration of hospital care was twenty days, and all of these cases, except two interval operations, were acute, and most of them gangrenous or suppurative. The average duration of hospital treatment in the 15 cases of spreading peritonitis, excluding the second period of the second case which was readmitted and operated upon a second time, was  $24\frac{1}{4}$  days. That is to say, the length of hospital treatment in these latter cases is nearly three weeks less than when the wider incisions, the gauze packing and drainage were in vogue. This feature alone, is one of the greatest economic importance both to the patient and to the hospital.

#### REPORTS OF CASES.

*Case I. Gangrenous Appendicitis. Spreading Suppurative Peritonitis.*—Wm. E., eight years of age; admitted Feb. 20, 1899. Attack one year ago, occasional attacks of pain since. Acute sudden seizure twenty-four hours ago. Examination: General tenderness, rigidity, no mass. Temperature  $101.6^{\circ}$  F., pulse, 100; respiration, 30. Immediate operation.

*Operation.*—Incision, McBurney's over appendix. Free pus escaped on opening peritoneum, wound extended through posterior sheath of rectus. Partial evisceration. Appendix four inches long, perforated, gangrenous, with stricture near base and containing fecal concretions. Ligated and removed; field cleaned with hydrogen peroxide solution and flushed with decinormal salt solution. Pelvis, which was filled with free pus, washed clear with saline solution, left side of peritoneal cavity showed serous fluid only. Peritoneal cavity flushed with hot saline solution, cigarette drains of gauze wrapped in rubber tissue inserted. One to the under surface of the right lobe of the liver, another into the pelvis and a third to the appendical site. Upper and lower drains removed next day. Feb. 22, appendicular drain pulled out, discharge foul odor. Wound sutures cut and a drainage tube inserted. Tube removed Feb. 26, wound rapidly cleaned, patient discharged cured March 23, 1899. Thirty-one days.

*Case II. Gangrenous Appendicitis. Spreading Peritonitis. Secondary Abscess. Secondary Operations. Subphrenic Abscess.*—Male, eleven years of age; admitted April 3, 1899. First attack—one week duration—acute onset—after fall upon abdomen. Examination: Abdomen generally distended, condition very bad. Temperature  $101^{\circ}$  F., pulse 128.

*Operation by Dr. Le Boutillier in my absence.* Oblique incision revealed large amount of free pus in peritoneal cavity, a localized abscess about

the appendix, and the pelvic cavity filled with foul-smelling pus. Appendix about three inches long, gangrenous, perforated, and containing fecal concretions. Ligated and removed. After cleansing pelvic cavity with hydrogen peroxide and flushing clean with hot saline, the general peritoneal cavity was flushed with hot salt solution and the wound closed after inserting two cigarette drains passing to the pelvis and appendical site. Profound shock, free stimulation.

April 5, delirious; temperature 102° F., pulse 140. April 6, better; wicks removed, bowels moved in response to enemata. Slow, steady improvement after this, up to April 16, when temperature began to rise without any apparent reason from condition of wound and without local signs within abdomen. April 30, temperature still elevated. Passed under the care of colleague by whom he was discharged April 26, somewhat improved, but still in poor condition and having a daily rise of temperature. Readmitted May 30, complaining of increasing pain in right side and with a swelling under free edge of right ribs. Temperature 103° F., pulse 140; respiration 126.

May 31, 1899, operation by Dr. Parker. Small incision into abscess, wound packed with gauze. Temperature fell, did well for a time, but evidence of retention of pus occurring, a second operation was performed by Dr. Le Boutillier. A large subphrenic abscess was thoroughly explored and drained. Wound closed by granulation and patient was discharged cured July 26, 1899.

*Case III. Gangrenous Appendicitis. Spreading Suppurative Peritonitis. Intestinal Obstruction, Third Week. Operation. Recovery.*—Male, twenty-six years old; admitted Feb. 5, 1890. Acute onset; sixth day of disease. Abdominal distention appeared, and patient looked very ill, skin cool and clammy, face pinched and somewhat cyanotic. Sent at once to hospital in ambulance, and operated upon as soon as preparations could be made. Temperature 99.4° F.; pulse, 84; respiration, 40.

*Examination.*—Abdomen rather distended and generally tender. *Operation.*—Oblique incision over appendical site reveals free thin pus, filling the pelvis and lower abdomen. Appendix long, angulated, two fecal concretions at end, and an area of gangrene with a small perforation near the middle. Cigarette drain to pelvis and appendical site, after thorough flushing of peritoneum with hot saline solution. Wound loosely sutured. Feb. 6, distention continues but high enema brings away gas and gives relief; Feb. 7, vomited; distinct fecal odor to the vomit. Stomach washed out and one ounce of saturated solution of Epsom salts left in the stomach by the tube, a high ox-gall enema given later brought away gas; Feb. 8, distention somewhat less, wick drains removed, enemata continued. Convalescence uninterrupted until Feb. 21, when, sitting up in bed and taking solid food he began to have cramps and the next day vomited considerably. Feb. 24, obstruction complete, vomiting becoming fecal.

February 24, operation; stomach first washed out and median laparotomy performed; a band of adherent omentum constricting a loop of small intestine was found and divided. The peritoneal cavity was washed with hot saline solution of which a considerable quantity was allowed to remain, and the wound was closed. Immediate improvement and uninterrupted convalescence, discharged cured March 19, 1900. Forty-two days.

*Case IV. Perforative Appendicitis. Spreading Peritonitis.*—Male, aged thirty-eight years; admitted March 21, 1900. Several preceding mild attacks. Present seizure, acute and of twenty-four hours' duration. Examination, abdomen slightly distended, rigidity and tenderness, no tumor. Immediate operation.

*Operation.*—McBurney's incision, enlarged by extension through posterior sheath of rectus. Free thin pus in peritoneum. Appendix small with perforation near its middle. Excised and stump invaginated by purse-string suture. Pelvis found filled with thin pus and the intestines in the lower segment of abdomen were congested and bathed in same. There was no fibrin present. After cleansing the principal infection focus with hydrogen peroxide and saline solution the lower portion of the abdominal cavity and pelvis was flushed with the hot salt normal saline, and a cigarette drain passed to the bottom of the pelvis. Loose suture of wound to the drain.

March 22, drain removed, stomach washed out, and a saturated solution of Epsom salts introduced through tube and left. Distention grew less and the convalescence though somewhat complicated by a moderately severe bronchitis, was, after the first forty-eight hours, uneventful. Patient discharged from hospital cured, April 7, 1900. Seventeen days.

*Case V. Acute Gangrenous Appendicitis. Spreading Peritonitis.*—Male, aged twelve years; admitted April 1, 1900. Indefinite history of mild attacks during the past year. Present seizure acute, with chill on day of admission. Examination general abdominal tenderness, no tumor. Temperature 102° F.; pulse, 96; respiration, 20. Immediate operation 10 P.M.

*Operation.*—McBurney incision. Free escape of thin, yellow free pus on opening peritoneum. Appendix lying to the inner side of cecum is five inches long, coiled spirally up on itself, no perforation. Lumen contains one large and several smaller concretions. Mucosa of tip and middle, gangrenous, proximal end of appendix normal. No limiting adhesions. Appendical region disinfected with hydrogen peroxide and flushed with saline solution. Appendix excised and stump turned in by purse-string suture. Wound loosely closed to small cigarette drain which passed to pelvis. April 3, 1900, wick out; April 5, suture out. Mild external wound infection. Discharged cured, April 20, 1900. Eighteen days.

*Case VI. Gangrenous Appendicitis. Spreading Peritonitis.*—Male, five years old; admitted April 22, 1900. First attack, sick one week.



Slight abdominal distention, rigidity, and tender mass in right side, condition poor. Temperature 100° F.; pulse, 120; respiration, 28.

*Operation.*—April 22; McBurney incision, later extended upward. Large abscess extending upward to the liver; pelvis also full of pus. Appendix retrocecal and adherent, four inches long; large perforation, gangrenous throughout, large concretions and free pus in lumen. Stump ligated and cauterized. Abscess, washed out with hydrogen peroxide and flushed freely with hot salt solution. Three cigarette drains; one to pelvis, one to under surface of liver and a third to appendical site. Convalescence uneventful, the usual moderate wound infection occurred, and healing by granulation. Discharged cured May 27, 1900. Thirty-five days.

*Case VII. Gangrenous Appendicitis. Spreading Peritonitis.*—Male, thirty-eight years old; admitted August 2, 1900. Sudden onset two days before, with pain and vomiting. Next day pain general, and more severe. Temperature said to have been normal. Examination. Patient enormously fat, looked very ill; pain and tenderness over appendical region; some abdominal distention. Temperature, 102.4° F.; pulse, 100; respiration, 28.

*Operation.*—August 2, 10 P.M. Long oblique incision on account of fat abdominal wall. Foul smelling free pus on opening peritoneum, abscess cavity about appendix extended to brim of pelvis. The appendix lay to inner side of cecum, four inches long, and entirely gangrenous. Contents, foul pus and fecal concretions. Excised stump inverted by purse-string suture. Field disinfected with hydrogen peroxide and flushed with salt solution; cigarette drains. Convalescence uneventful, moderate wound infection, healing by granulation. Discharged August 30, 1900, with very small granulating wound. Twenty-seven days.

*Case VIII. Gangrenous Appendicitis Abscess Spreading Peritonitis.*—Female, aged twenty-five years; admitted January 24, 1901. First attack two years ago. Duration of present illness about eighteen hours. Acute onset. Examination. Slight rigidity and some general tenderness. Temperature, 99.4° F.; pulse, 106.

*Operation.*—Jan. 25, 1901; McBurney incision, abscess opened and about two ounces of foul-smelling pus evacuated. Abscess cavity washed out with hydrogen peroxide and saline, the appendix removed, and its stump inverted by Lembert sutures. The pelvis also contained a large quantity of free pus. This was washed out with saline and a small drainage wick was introduced, also one to the appendical site. Appendix three inches long; gangrenous at its distal end and perforated. Wound closed to drain, which was removed in about thirty-six hours, and patient discharged cured Feb. 24, 1901. Thirty days.

*Case IX. Acute Appendicitis. Spreading Peritonitis.*—Male, eighteen years old; admitted March 5, 1901. Acute seizure same day. Patient looked very ill, some general and marked

local tenderness, no tumor. Temperature, 104° F.; pulse, 100; respiration, 28. Second attack. Immediate operation 10:30 P.M.

*Operation.*—McBurney incision, free seropus escaped on opening the peritoneum and the pelvis and lower abdomen found to contain a considerable quantity of the same. Appendix removed and stump invaginated by a purse-string suture. Peritoneal cavity flushed with hot saline solution. Wick drain to pelvis and one to appendical site. Appendix four inches long, stricture at proximal one-third perforation at point distal to this with feces escaping. Section reveals mucosa showing spots of superficial ulceration and a gangrenous area involving the whole thickness of wall at point of perforation. Wicks removed in thirty-six hours; usual wound infection occurred; convalescence uneventful. Discharged as cured April 2, 1901. Twenty-seven days.

*Case X. Perforated Appendicitis. Spreading Peritonitis.*—Male, aged five years; admitted March 15, 1901. First attack, acute seizure, twenty-four hours' duration. Examination. Slight distention, some rigidity, tenderness general, but more marked in the left iliac region. Temperature, 101° F.; pulse, 120; respiration 40. Looked very sick, removed at once to the hospital and operated upon at 9:30 P.M., same day of admission.

*Operation.*—McBurney incision, free seropus in peritoneal cavity. Appendix four inches long, and extending nearly horizontally across the abdomen and with its free end to the left of median line. Perforation one-half inch from tip, excised and stump invaginated by purse-string suture. Peritoneal cavity from beneath the liver to the pelvis flushed with hot saline solution and the wound closed to a small wick drain extending to the bottom of the pelvis. There were small flecks of fibrin on the intestines, but no limiting adhesions, while seropus was pretty well distributed through lower abdominal cavity. The distention yielded to saline cathartics and enemata and the recovery was uneventful, moderate external wound infection. Healing by granulation, discharged as cured April 5, 1901. Twenty-one days.

*Case XI. Acute Non-perforative Appendicitis. Spreading Peritonitis.*—Male, aged forty-one years; admitted March 30, 1901. Abdominal discomfort for past six weeks, acute seizure thirty-six hours' duration. Examination.—Rigidity, general tenderness, slight distention, no distinct tumor. Temperature, 102° F.; pulse, 134; respiration, 32.

*Operation.*—March 31, 1901. McBurney incision enlarged by extension through posterior rectus sheath. Free pus in peritoneal cavity; intestines congested and somewhat distended. Cecum very movable and entirely covered by peritoneum. Appendix to inner side, sharply angulated in the middle, and extending nearly over to the middle line; 4½ inches long, congested and filled with soft feces. Mucosa echymotic, no ulceration, or perforation. April 1,

wick removed; April 10, wound healed; April 14, discharged cured. Fifteen days.

**Case XII. Gangrenous Appendicitis. Spreading Peritonitis.**—Female, aged eleven years; admitted January 20, 1902. Forty-eight hours' duration, acute sudden onset. Examination.—Marked tenderness, no tumor. Temperature, 102° F.; pulse, 100; respiration, 25. Looked very ill.

**Operation,** same day. Oblique incision 3½ inches long, through muscles. Free pus in peritoneum, creamy, foul-smelling and thick. Appendix nearly four inches long, extending to pelvis; gangrenous area with small perforation. Excised and stump invaginated, two wick drains. Some pain and distention after operation, required frequent enemata. External wound infected but rapidly cleaned up. Patient discharged as cured February 23, 1902. Thirty-four days.

**Case XIII. Gangrenous Appendicitis. Spreading Peritonitis.**—Male, aged twenty years; admitted February 15, 1902. First attack, fourth day, acute onset, very tender, good-sized mass. Temperature, 102.4° F.; pulse, 110; respiration, 24.

**Operation** same day. Oblique incision, large abscess evacuated and the appendix, the distal end of which was gangrenous but not perforated, was removed and the stump invaginated in the usual manner, after the usual washing with hydrogen peroxide, followed by saline. The pelvic cavity contained a large amount of pus and considerable free seropurulent fluid was present in the lower abdomen and a few strings of recent fibrin on intestines. Peritoneal cavity and pelvis flushed with hot saline solution. Peritoneum closed to two small wick drains extending to pelvis and appendical site. External wounds partially closed. Patient in bad condition, saline infusion and free stimulation required. Feb. 17, still vomiting, but condition materially improved, drains removed; Feb. 18, delirious all night; April 24, in typhoid state, wound foul; Widal test, negative. March 2, wound cleaned, much improved; March 12, sitting up; March 16, discharged cured. Twenty-nine days.

**Case XIV. Gangrenous Appendicitis. Spreading Peritonitis.**—Female, aged twenty-seven years; admitted March 8, 1902. First attack, acute onset, previous morning. Some distention, fairly rigid, more or less general tenderness; no distinct tumor. Temperature, 101° F.; pulse, 120.

**Operation** same day. McBurney incision. General peritoneal cavity full of thin, turbid, greenish-yellow fluid, large flakes of fibrin. Appendix removed, stump invaginated and wick drain inserted to site. The appendix was gangrenous and perforated. After flushing the peritoneal cavity with salt solution and suturing the abdominal wound, the stomach was washed out, and one ounce of saturated solution of Epsom salts was introduced through the stomach tube. March 9, wick withdrawn. Bowels moved and patient doing well. Moderate wound infection,

healing by granulation; wound clean by March 20 and strapped. Discharged as cured March 21, 1902. Thirteen days.

**Case XV. Gangrenous Appendicitis. Spreading Peritonitis.**—Male, aged eleven years; admitted March 15, 1902. First attack, acute; sudden seizure that morning; frequent vomiting. General tenderness, both recti tense, especially the right, no tumor. Temperature, 101.8° F.; pulse, 140; respiration, 40.

**Operation** same day. McBurney incision. Large amount of free yellowish, turbid fluid in the abdominal cavity. Appendix short, swollen and its distal third gangrenous and perforated. Wick drain, partial closure of wound. Usual after-treatment. Wound healed by granulation, out of bed March 29. Discharged cured April 7, 1902. Twenty-three days.

#### PRIMARY MYOKYMIA; WITH REPORT OF A CASE.<sup>1</sup>

BY ROBERT M. DALEY, M.D.,  
OF NEW YORK;

CLINICAL ASSISTANT, DEPARTMENT OF NEUROLOGY, CORNELL UNIVERSITY MEDICAL COLLEGE.

MYOKYMIA is a disorder characterized by fibrillary and wave-like contractions of the individual fibers of various muscles of the body without locomotor effect. It is more than a simple fibrillary tremor, for the whole body of the muscle also undergoes rather slow wave-like contractions passing from one end to the other. The condition rarely occurs primarily. Usually it appears as a minor symptom; in diseases of toxic origin, such as lead and mercurial poisoning, etc., and after attacks of poliomyelitis. It is also seen in neurasthenia and in sciatica; and in diseases characterized by rapid bodily wasting. It may occur as in my case as the only morbid condition.

Myokymia is one of those types of spasm closely allied to and often identical with cases reported as paramyoclonus. Dana regards Friedreich's case of paramyoclonus multiplex as really belonging to this group. That it may exist in conjunction with a myoclonus is shown by Kny, who first reported this condition in 1888, under the term of *paramyoclonus fibrillaris multiplex*. Later, Schultz, in reporting a true case, gave it the name of *myokymie*. Giovanni Biancone gives the name *myokymie* to a special group of cases of myoclonus characterized by fibrillary contractions of the muscles, in which those of the face may participate. He states that in these cases, the electrical excitability of the muscles involved is sometimes increased, and there is always an unduly persistent contraction after the excitation has been discontinued. Paresthesia and paralysis form part of the clinical picture of the group. According to Bastianelli, only five such cases are on record,—his own, Biancone's and others by King and Schultz.

This case which I am reporting would come within the group described by Biancone. Later cases reported by Williamson, Walton and Dana,

<sup>1</sup> Received for publication Feb. 13, 1904.



bring up to thirteen, the number of cases in which myokymia is reported as the primary, dominant and most annoying symptom.

George P., aged twenty-eight years, single, native American, white, printer for fourteen years.

*Family History.*—The patient is one of five children; two brothers died in infancy; one uncle (mother's side) died of consumption, one cousin (also maternal) had chorea or epilepsy. Family history otherwise negative.

*Previous History.*—The patient does not remember having had any of the diseases of childhood, save mumps, which he had one year ago. Has had a moderate catarrh of nose and throat all his life. Suffered from fever and ague off and on, for two years, twelve years ago. No history of lead colic. Has always been interested in athletic exercises and pursued them to excess. Six years ago he rode the bicycle to excess. During two years he made 150 century runs, besides usual riding; also did cross-country running and played basket ball at night after work. Ten years ago, after taking part in a political parade, his legs pained him and he felt very tired. He has always been a great walker. He has never drunk to excess and never averages more than two drinks a week. Smokes a pipe considerably. Denies venereal diseases or excesses.

*Present Illness.*—About a year ago, after walking for eleven hours steadily, he noticed that the muscles in the calves of his legs twitched. This symptom has increased, and continued ever since. He both sees and feels the muscular twitching, and at night he can feel the sides of the face next to the pillow twitch. His forehead feels itchy at times. His legs seem heavy after walking a short distance, and also pain him. At times there are itchy or prickly feelings in them. His arms also get tired after moderate exertion. He states that his memory is not so good as formerly,—as he will forget to do things his superior tells him. He stands all day at his work. Otherwise, he feels well; there is no headache, no pain anywhere else. The appetite is good, the bowels regular. He has been in the country the past summer for a couple of months, and during this time has gained fourteen pounds.

*Physical Examination.*—Of rather slight build, but well nourished, figure regular. No anatomical stigmata of degeneration. Has some pes planus. Lungs negative. Heart normal in size and action; there is a faint mitral systolic murmur transmitted only to the anterior axillary line. Pulse normal frequency, no arterial thickening. There is no evidence of congestion in feet and hands. Liver and spleen apparently normal. Urinary examination shows few crystals uric acid, otherwise normal. Thyroid small.

*Examination of Nervous System.*—Gait and station normal. There is no paralysis or paresis of muscles. Facial innervation more marked on right side. Moderate tremor of hands. There is a fibrillary twitching of all the muscles of the legs and the posterior muscles of the thigh. The adductors and the quadriceps are not involved. This

phenomenon consists of a constantly recurring contraction of muscular bundles, sometimes the same bundle contracting once, more often several times. The distribution of the muscles affected is symmetrical. These fibrillary contractions occur in every visible portion of the muscle, and evidently take place throughout the entire muscle substance. They involve sometimes a small bundle of the muscle, and sometimes a larger one. I have never seen the contraction of a bundle wider than half an inch, but I have noticed the contraction of a narrow bundle running through the entire length of the gastrocnemius. Contractions may occur in different parts of the muscle at the same time. The rapidity of the contractions varies considerably; occasionally they are slow and worm-like—other times sharp and quick. The strength varies likewise. The movements are more marked when the muscle is in an active state, for instance when the patient is standing. He is conscious of these contractions and this constitutes his reason for coming for treatment.

A sharp blow on these muscles brings out a marked contraction of a bundle, often followed by several others. There is no atrophy. The electrical reactions are negative. There is no objective disturbance of sensation. Pupils large, react well to light, distance, ciliospinal and consensual. No limitation of field of vision. No disturbance of ocular motility. Fundus normal. No disturbance of smell, taste, or hearing. Superficial reflexes undisturbed. Deep reflexes—jaw-jerk increased, elbow and wrist normal. Knee-jerks increased; ankle-jerk normal. No clonus. No Babinski. The patient has been under observation for a year, during which time the contractions have persisted in the same manner as described, though now both quadriceps are involved, and the contractions are more frequent and more marked in the thigh muscles than before, the extent and character of the contraction in the calves remaining about the same. The size of the legs remains the same; the patient also states that he has noticed no diminution in their size since the onset.

The patient has been under increasing doses of strychnine, up to gr.  $\frac{1}{16}$  t.i.d.; arsenic in increasing doses, up to  $\text{m}\cdot\text{xv}$ , t.i.d. Specific treatment, bromides, chloral, galvanism, exposure of spinal column to X-ray, conium, gelsemium and tonics—all with no beneficial effect, save that a combination of conium and gelsemium reduced the contractions to a marked degree for a time.

Of the cases previously reported, all save two have been among the laboring class, and these two had poliomyelitis in childhood and undoubtedly used the muscles not involved to excess in compensation for the weakness of the others—as in Walton's case it began in the unaffected muscles of the extremity which was affected by the poliomyelitis; in my case it was an athlete, and in two cases it followed or accompanied lead poisoning. In one it followed sciatica, and I have seen it in a case of sciatica not reported.

All these cases were males, ages running from

twenty-one to seventy-one years. In two of the cases the legs only were affected; in the remainder, the legs and arms or legs and entire muscular system, excepting in one instance, the hands, and in another, the face and neck. In Kny's case, as already stated, it was associated with myoclonus; in Dana's with myoclonus and myotonus. Painful cramps have appeared in some of the cases. None show atrophy of the muscles, or much disturbance of the general health.

Nearly all complain of general pains, indefinite in character, and also of becoming easily tired. Four cases were cured, and one improved by rest, galvanism, and warm baths. Of the pathology nothing is known. As I have said, nearly all the cases occurred among men who used their muscular system excessively. Acute congestions, poisons, or exhaustive hemorrhages also may produce results, varying according to the extent and duration of the morbid influence and the vitality of the nerve cells, from a myospasm to a poliomyelitis or an amyotrophic lateral sclerosis; from disturbance of the cell to its death. In this case, the excessive work put upon the spinal motor neurons has led to a chronic functional disturbance, shown by slight irregular discharges.

I believe the contractions are due, in this case, to a perversion of the normal efferent impulses, which are constantly passing to a muscle to preserve its normal tone, and that the cause of this perversion is due to some disturbance of the peripheral motor neuron. That it is not due to the nerves which conduct the afferent impulses from the muscle is shown by the fact that mechanical stimuli, which call for a contraction of the entire muscle, are responded to naturally, also other afferent impulses; the sensory vasomotor and trophic nerves are not disturbed. That there is no disturbance in the muscle itself, is shown by the lack of any nutritional change, and the fact that the entire muscle contracts naturally, both to electrical and voluntary movements. That this perversion is not due to a disturbance in the action of the sensory cells, but rather to the motor cells, is shown by the absence of any characteristic sensory symptom, and to the etiology which is one of the excessive use of the motor neuron.

This perversion is probably of a functional character, and due to a disturbance in the action of the cell.

The myoclonias or more or less generalized clonic spasms may be grouped as follows:

1. Peripheral myoclonus (including paramyoclonus of Friedreich, and fibrillary myoclonus of Kny) or myokymia.
2. Hysterical myoclonus (including some cases reported as paramyoclonus multiplex).
3. Cortical myoclonus, or convulsivetic.
4. Degenerative myoclonus or myoclonus-epilepsy or family myoclonus.
5. Chorea.

Groups 4 and 5 are closely related.

#### BIBLIOGRAPHY.

Kny, E. *Archiv f. Psychiat.*, Berlin, 1888, xix, pp. 572 to 590.  
Schultz. *Beiträge zur Muskel Pathologie über Miokymie*,

*Deutsche Zeitsch. für Nervenheilk.*, Bd. vi, H. 1 to 2.  
Hoffman. *Muskelwogen in einem Falle von chronischer doppelseitiger Ischias*.  
Mayer. *Neurol. Centralblatt*, No. 14, 1897 (abstr.).  
Biancone, G. *Contributo clinico allo studio della miokimia*,  
*Riv. sper. diferen.*, 1898, xxiv, p. 313.  
Bastianelli. *Sopra un tipo di mioclonia fibrillare*, *Rivista di Psicologia, Psichiatria e Neuropatol.*, fasc. 3, vol. 1, Guigno, 1897.  
Berber. *Neurol. Centralblatt*, No. 15 (abstr.).  
Karcher. *Neurol. Centralblatt*, No. 7 (abstr.).  
Gowers. *Dis. of Nerv. System*, 1889, Vol. 1, p. 128.  
Williamson. *British Medical Journal*, 1900.  
Walton. *Journal of Nervous and Mental Disease*, July, 1902, pp. 407-418.  
Dana. *Journal of Nervous and Mental Disease*, Aug., 1903.

#### DIAGNOSIS AND TREATMENT OF INTERNAL HEMORRHOIDS.<sup>1</sup>

BY H. A. BRAV, M.D.,  
OF PHILADELPHIA.

INTERNAL hemorrhoids may be defined as varicosities of the middle and superior hemorrhoidal veins, sometimes associated with eversion of the rectal mucous membrane. There is always more or less pain and tenderness with discomfort in sitting. Allingham describes three varieties of internal hemorrhoids: capillary, arterial and venous.

The capillary hemorrhoid is small, and is composed of the terminal branches of the arteries and veins and of the capillaries which join them. The capillary hemorrhoid never protrudes through the anus. It is covered by a delicate thin membrane and this accounts for the free bleeding which follows the slightest injury of its surface by the passage of hardened feces during the act of defecation. To this form of hemorrhoid the name bleeding piles may properly be applied. Some authors refer to this form of piles as the first stage of hemorrhoidal development.

An arterial hemorrhoid is of considerable size and consists of a tumor of freely anastomosing arteries which are tortuous and dilated and bound together by connective tissue. Such a tumor is firm to the touch and is liable to inflammation, erosion, hemorrhage and protrusion through the anal orifice during defecation, returning spontaneously into the bowel after the act has been completed.

This form of hemorrhoid is the result of repeated attacks of inflammation (irritation) of the capillary form of hemorrhoid which causes an increase in the submucous tissue. I shall refer to this form as the second stage of hemorrhoidal development.

The venous hemorrhoid consists of a mass of large dilated veins, beneath the mucous membrane of the rectum. Repeated irritation leads to hypertrophy and induration of the mucous membrane and submucous connective tissue and a large bluish tumor is formed, which protrudes during defecation or the protrusion may be continuous if the patient is not in the recumbent position. This stage is spoken of as the third stage of hemorrhoidal development.

The diagnosis of this most common and distressing malady is not difficult, although errors in diagnosis are of more frequent occurrence than is generally supposed by physicians who do little

<sup>1</sup> Read before the North Branch of the Philadelphia County Medical Society, January 13, 1904.



rectal work. Internal hemorrhoids are likely to be confounded with cancer of the rectum, polypus and prolapse of the rectum, because these conditions are likewise accompanied by hemorrhage, pain, protrusion at the anus and a discharge of mucus.

Errors are particularly liable to occur in diagnosing the disease, as met with in children because prolapse and polypus of the rectum are not uncommon affections in children and these diseases present some resemblance to internal hemorrhoids. It is true that internal hemorrhoids is a very rare affection in childhood, but cases have been reported by Allingham, Ball and others. My own experience has been limited to two cases occurring in children whose ages were five and nine years respectively.

The symptoms of a prolapsed and congested polypus are very similar to those of internal piles, consisting of a protrusion at the anus and occasional bleeding at the act of defecation but a careful digital examination will disclose the presence of the pedicle to which the growth is attached. Prolapsus of the rectum is easily distinguished from piles by the characteristic appearance of a reddish-purple mass with its depressed central orifice and the annular fold of tissue around the whole anus. The differential diagnosis between malignant growth and hemorrhoidal tumors is an easy matter, as the hard nodules on the side of the rectal wall with its comparatively firm structure, and surrounding induration can readily be detected on a digital exploration. The following cases, selected from a number of those which I saw confused with internal piles, will demonstrate the fact that a wrong diagnosis is often made:

*Case I.*—In March, 1903, a woman aged seventy years consulted me for what she thought to be bleeding piles. Her history was as follows: In April, 1902, she had an attack of diarrhea associated with rectal hemorrhages during the act of defecation. She consulted her physician who diagnosed her case as internal piles and prescribed ointments to be used locally, and internally some medicine to check peristalsis. She did not improve under this treatment but grew worse every day. When I saw her she complained of a constant desire to evacuate her bowels, but when at stool she passed nothing except blood and mucus. She said, she felt as if her bowels were never unloaded, and the excessive straining caused a sharp pain in the rectum.

I placed the patient in the right lateral and semi-prone position and introduced my index finger into the rectum in search of the cause of her ailment. Sweeping the finger around the walls of the first three inches of the rectum, I found nothing to account for her symptoms. Introducing a speculum in order to see whether there were any erosions or ulcerated areas, which may give rise to this bleeding, I found the lower portion of the rectum very much congested but no lesions were visible. Not being satisfied with the result of my examination, I requested the pa-

tient to stand up and I examined her in the erect position. While the patient was straining as much as possible, I again introduced my finger to its full length when the tip of my finger came in contact with a malignant stricture about four inches above the anus.

*Case II.*—A boy, eleven years old, was referred to me by his physician for a rectal examination. The history obtained from the mother was as follows: For over two years the boy suffered with tenesmus, diarrhea and at times passed blood and mucus from the rectum. Occasionally a bright-red mass would protrude from the anus and cause pain. He was treated by a number of physicians for internal hemorrhoids but failed to get relief. A digital exploration of the rectum revealed the presence of a polypus.

From what has been said it is obvious that the importance of a correct diagnosis of internal hemorrhoids cannot be overestimated. In the second and third stage of hemorrhoidal disease, when the piles protrude through the anal orifice and when they either return spontaneously into the bowel after defecation or protrude constantly, a careful examination will readily disclose the nature of the trouble. The pile tumors can then not only be seen as a dark blue mass, but they can also be felt between the fingers as a circumscribed and distinct tumor, being partly hard and partly soft, with a strict contiguity between the piles and bowel.

The difficulty in diagnosis arises in the early stage of hemorrhoidal development when there is no external evidence of internal piles, and bleeding is the only symptom present. Also when hemorrhoids are complicated with a fissure or an ulcer of the rectum, the spasmodic contraction of the sphincters is so great that the piles are not prolapsed, though they may bleed freely with each action of the bowels.

In such cases an examination should be made immediately after the rectum has been emptied by an enema, when the bearing-down efforts and water causes the hemorrhoids to protrude, enabling us thereby to determine the number and size of the tumors we have to deal with.

In woman piles may be brought plainly into view by everting the anus with two fingers introduced into the vagina and pressing upon its posterior wall. An examination in a case of internal hemorrhoids should never be terminated at the evidence of hemorrhoidal tumors, for it often happens that higher up a stricture exists which manifests no other signs of its presence except the hemorrhoids.

In outlining a rational method of treatment for internal hemorrhoids, it is necessary to bear in mind the etiological factors and pathology underlying this condition. We must remember the effects of the various causes of piles, whether the result of pressure as in constipation, foreign bodies in the rectum, retroversion of uterus, pregnancy or whether it is caused by reason of straining during micturition as in enlarged prostate and stricture of the urethra.

All these conditions lead first to a varicose condition of the veins and impediment of the return flow of venous blood and later to an increase in the blood vessels and proliferation of connective tissue.<sup>1</sup>

The belief that permanent cures cannot be effected with palliative measures or local treatment is surely true in the third stage of hemorrhoidal development, when we have to deal with a firm, hard, fibrous tumor. This, however, is not true in the first and second stage of hemorrhoidal formation. Here palliative measures should always be tried, and when skilfully and scientifically executed, we will not only relieve or soothe the symptoms of the disease without curing it, but by the alleviation of the existing cause and the employment of palliative measures we render an operation quite unnecessary. The dictum calling for the removal of the cause before treatment ensues is equally applicable to this affection.

Internal hemorrhoids secondary to stricture of the urethra, enlarged prostate, vesical calculus, pregnancy or neoplasm will completely disappear when these affections are cured. Knowing that constipation is the most common cause of internal hemorrhoids, we should first direct our attention to this condition and attempt to secure at least one daily evacuation of the bowels. This can often be accomplished without medicine by a change from a sedentary habit to active outdoor life and the avoidance of everything which tends to produce constipation. The diet should be regulated by eliminating from it all substances which tend to constipate the patient's bowels.

Highly seasoned meats, rice, cheese and potatoes, alcoholic drinks and the excessive use of tobacco, should be strictly prohibited.

If the prophylactic and dietetic measures are not sufficient to obtain a daily evacuation of the bowels, we have to resort to medicinal or local treatment. Mild aperients in the form of a mineral water in the morning, or a dose of cascara at night in addition to gentle massage of the sphincters with the finger, will be found very effective. The injection of two ounces of olive oil at bedtime and its retention over night is extremely beneficial, not alone because it softens the feces and facilitates its expulsion, but because it also prevents hemorrhage. The softening of the feces prevents the cohesion of scybala which invariably causes engorgement of the hemorrhoidal veins and the surface of the pile is not abraded by the passage of a hard fecal mass during defecation.

In cases of obstinate constipation, saline cathartics are indicated; drastics, however, should not be used. Hemorrhage is most efficiently relieved by the use of astringents and cold. The best astringent in these cases is cold water. After

each passage, the bowel should be injected with cold water. A suppository of ten grains of tannic acid is also very efficient. When the hemorrhage is profuse, every mechanical means should be exhausted in determining the exact location of the bleeding point.

With our modern method of distending and illuminating the rectum, the bleeding point should be located before any effort at packing the rectum or hemostatics are employed for checking the hemorrhage. When the hemorrhage is the result of a general oozing from the surface of the piles, a single application of nitric acid or carbolic acid will often stop it forever; cauterization may also be made with the Paquelin cautery point, which is still more reliable. The application of these chemical caustics is not painful, and the beneficial results obtained so satisfactory that a trial of this procedure in controlling hemorrhage from capillary oozing from small vessels is, I believe, worthy of consideration.

Hemorrhage from a spurting vessel on the surface of one pile can readily be stopped by the application of a silk ligature to the bleeding point. This can be done without an anesthetic. Following the application of the ligature, the bowels should be confined for three days, after which time a cathartic is given to secure a daily natural evacuation afterward.

The injection of a moderately strong solution of carbolic into the center of the pile, results in a hardening and diminution in the size of the hemorrhoid. This atrophy of the tumor is produced by the inflammatory induration following the injection and by the subsequent cutting off of the circulation to the tumor.

The solution I employ is one part of pure carbolic acid to two parts of glycerin and two parts of water. The amount I inject into the hemorrhoid ranges between five and ten drops, depending upon the size of the tumor. I inject two and sometimes three tumors at a time, but I think the novice does better by injecting only one at a sitting. The injection may be repeated after the lapse of one week. When the injection is properly and skilfully performed, there is very little pain following it, and the results are very gratifying. There is a gradual decrease in the size of the tumor, and in a few weeks the prolapse disappears and with it the bleeding, pain and discomfort. By this method, under the head of the palliative treatment, I am satisfied that I obtained complete cures in over 30 cases.

I do not advocate this method in preference to the radical cure by operation, but I often resort to it when patients refuse the surgical operation. The practical advantages of this plan of treatment may be summed up as follows: The patient is not frightened by the use of a knife, it is painless when properly performed, and it does not detain the patient from business. I believe that with the proper antiseptic precautions there is no danger of sepsis, abscess formation or sloughing.

Regarding the permanency of the cure, it may be said that after the exciting cause is removed

<sup>1</sup>The treatment of internal hemorrhoids is generally considered under two heads: First, palliative; second, radical cure by operation. A large majority of sufferers from internal hemorrhoids will not submit to a radical cure in spite of the advantages and the safety and facility with which it may be accomplished.

In my experience, comprising both private and hospital practice, three out of five object to the use of the knife and general anesthetic. It is, therefore, of paramount importance to know what can be done for such patients without any surgical interference.



and the prophylactic measures are successfully carried out there may be no recurrence of the trouble. I have seen cases of recurrence following the clamp and cautery and the ligature operation if the preventive measures have not been adhered to. Piles should not be injected when highly inflamed, when external, strangulated or when ulcerated. We may at any time be called upon to treat a case of strangulated piles and the condition is an extremely painful one. We usually find a mass of piles, swollen, congested and edematous which are tightly constricted by the external sphincter. The pain is so severe that a large majority of patients will readily submit to an operation, which should be performed at once. If an operation is refused, lead-water and laudanum lotion applied ice-cold, affords great relief, and so reduces the edematous swelling that the piles may be replaced. Their reduction by taxis requires much care and judgment. After anointing the mass with vaseline one finger is gently introduced into the anus and the other fingers press the tumors one by one within the bowel. This, if possible, should be done under the influence of an anesthetic, for the maneuver is a very painful one and the reduction is sometimes impossible without an anesthetic. Under the use of cold and sedative applications and rest, the condition will subside in forty-eight hours, when the patient is able to effect a reduction himself.

The operative treatment is the safest, as it does not require much time to bring about a radical cure. It is the intention of the writer to only refer briefly to some of the numerous methods of operation for internal hemorrhoids. Of all the various operative procedures I prefer the ligature or Salmon's operation. This operation can be performed in a short time and is accompanied by very little bleeding. There is no risk of hemorrhage if the ligature has been tied tightly and the loss of healthy mucous membrane can more easily be prevented by including only the pile in the ligature. And the period of convalescence is short, as a rule from two to three weeks. If the operation has been properly performed there will be no recurrence of the piles. This operation can be performed with fewer assistants than any other operation adopted for the operative cure of hemorrhoids. I will not weary you with a detail description of the various steps followed in applying the ligature as the procedure is known to all of us. I only wish to state that I do not cut off the pile after the ligature is tied unless a pile happens to be very large. After the piles are tied, I replace them within the bowel. I finally insert into the rectum a firm piece of rubber tubing  $3\frac{1}{2}$  inches long and an inch in diameter, around which sterile absorbent cotton is wrapped. This is kept in place by placing a safety-pin through the outer end and into a T-bandage. This tube serves three purposes: First it allows the escape of flatus, which is the chief cause of the discomfort after the operation; second, through this tube possible bleeding can be detected; third, if after the third day a cathartic is administered

and no action of the bowels is obtained, an enema can be given through the same tube. Immediately after recovery from the effects of the anesthetic, a powder composed of one-fourth grain of morphine and ten grains of bismuth should be administered every four hours for two days in succession. This is necessary to keep the bowels confined for about four days, at the end of which period they should be relieved by the administration of a laxative and, if necessary, an enema. The external dressing should be removed twenty-four hours after the operation and a fresh dressing should be put on every night and morning until the wounds are healed. The ligatures will ordinarily slough off in from eight to ten days. When this operation is properly performed there will be no considerable suffering following it, surely no more than after the clamp and cautery operation.

There is one other operation which has won for itself a very enviable reputation, and, I think, is the best after the ligature operation, and that is the operation by clamp and cautery or Henry Smith's procedure. Some surgeons claim that this operation is not followed by pain if care has been taken to avoid cauterizing the skin. I cannot agree with them, for I saw marked pain after it. The edema of the mucocutaneous tissues following this operation is very great.

Some time ago while demonstrating such a case to a number of physicians, I was asked why I did not remove all the piles, as they thought the edematous mass around the anus were piles. Such a condition is the cause of considerable suffering, and while this is not present in every case it occurs frequently enough to warrant the statement that this operation is just as often followed by pain as the ligature operation. It is furthermore claimed by the advocates of the cautery operation that the patients can be about in a few days and that they are not detained from business more than a week. I do not find this a safe procedure, because the wounds are not entirely healed by that time and the irritation produced by walking or straining while at work will lead to increased granulation and subsequently to the formation of a stricture. I have seen a number of such cases in patients who were permitted to attend to business one week after the operation, returning about four or five weeks later with marked stenosis. It is advisable to keep the patient under observation for three weeks, during which time he should not be permitted to exert himself in the least. The patient may be up and about in the room after a week or ten days, but should be in the recumbent position the greater part of the day.

I have already indicated my preference for the ligature operation and only wish to add that this treatment requires skilful supervision in order to be successful. But when successfully carried out it has yielded, in my observation, more satisfactory results than any other operation.

My experience in the treatment of internal hemorrhoids lead me to arrive to the following conclusions:

1. In the treatment it is important, in the first

place, to determine whether the disease is primary or secondary to some affection of the pelvic organs.

2. In the first stage of hemorrhoidal disease no operative treatment is indicated.

3. The true value of the non-operative treatment is frequently underestimated in the second stage of hemorrhoidal disease.

4. None but operative treatment should be resorted to in the third stage of hemorrhoidal disease.

#### OBSERVATIONS ON OBSTETRICS IN GENERAL PRACTICE.<sup>1</sup>

BY J. F. McNULTY, M.D.,  
OF CALLAWAY, NEB.

THE art of assisting women in childbirth in general country practice differs but little from the same function in private city practice.

The general practitioner is working at a disadvantage, as he is frequently called without a moment's notice, while the specialist has generally a line on his case during the whole period of gestation. The general practitioner is very frequently brought face to face with serious and alarming situations without notice, and quite often without sufficient preparation. The ability to cope successfully with what may be called emergency cases requires a cool head and rapid judgment. The physician must have the faculty of doing nothing at the wrong time, and the ability to act promptly at the right time.

We should constantly keep in mind the fact that meddling midwifery is poor midwifery. We are called simply because it may become necessary to assist nature in the expulsion of the products of conception, but with the distinct understanding and hope that our efforts will not be required.

1. We may become meddling by rupturing the membranes too soon. Show me a man who has a record for using the forceps, who, in fact, is forced to use them often, and I will show you a man who is a chronic premature rupturer of the amniotic sac. No branch of medical practice furnishes such positive evidence regarding the germ theory of disease.

2. We can become, and unfortunately do become, meddling, by introducing diseased germs into a very fine culture medium—the contents of the human uterus. By cleanliness and the strict attention to the details of antiseptic surgery much trouble may be avoided. I now have a case of puerperal fever, where the attending physician neglected to prescribe even a carbolic acid wash.

The attending physician should prepare as for a surgical operation in every instance. There should be no situation which would call for a hasty examination without first giving marked attention to the preparation of your hands. The obstetrical practitioner of to-day should always remember that he is, for the time being at least,

a surgeon, when called upon to use any kind of instrument.

3. We can, and do, become meddling by neglect. Neglect to repair a laceration immediately. The gynecologists grow rich upon the neglect of the obstetrical practitioner. Nine women out of ten who consult for private trouble date their period of suffering from a particular confinement or a particular miscarriage. You have in a laceration a fresh wound. Sew it up; dress it surgically, and no trouble follows. If not sufficiently large to require a ligature, merely apply an antiseptic dressing instead of allowing it to ulcerate and become an avenue of infection.

Few persons die during an operation; few women die during delivery; but the effects resulting from operations and deliveries give us deaths by the thousands. Suppose the case of puerperal fever of which I spoke should die, or should recover and later develop pus tubes, and the removal of them should cause death, where should the primary cause of death be placed?

Neglected abrasions of the vaginal mucous membrane, slight lacerations of the cervix with more or less tearing of the pelvic floor, are, I believe, the primary causes of the major portion of female complaints.

We should see that the various organs after delivery are placed in the position which nature intended them to occupy. More tissue should be placed to support the uterus than just sufficient to afford covering for the contents of the rectum. We must answer for a great many prolapses, not because of what we have done, but of what we have left undone.

My old professor, Dr. Earl, of the College of Physicians and Surgeons, Chicago, was in the habit of saying: "Remember, boys, you cannot prevent a child from being born." The child will be born, as a rule, in spite of us, but it is very essential that we have at our finger tips the normal diameters of the pelvis and the fetal head; also the positions the fetal head may assume in passing through the parturient canal. These points are called the alphabet of obstetrics, and every physician should have a mental picture of the situation, no matter what position the child's head may be forced to assume. The ability to follow the fetal head properly and accurately comes only by painstaking observation.

How few of us endeavor to make out the various positions and mentally review the diameters while attending a case! I think it good practice to go over this old alphabet in every instance, no matter how normal it may be. Then when we come in contact with an abnormal situation, we at once recognize it, and can prepare to meet it promptly. If we find that natural efforts are not sufficient to meet the new conditions, and artificial aid is absolutely called for, then act without delay—giving ample time for thorough preparation, however.

Offer no excuse for using forceps. When indicated use them just as you would a certain drug if indicated in a given case. I was recently

<sup>1</sup> Read before the Custer County Medical Society, Broken Bow, Nebraska, February 9, 1904.



obliged to use forceps in a case where the membranes had ruptured two days previous to the beginning of actual labor pains. The mother was a large, healthy and strong woman, twenty-eight years of age, this being her second child. The occiput was found to be in the left posterior position. It failed to make the turn, and remained fixed. The patient became exhausted, and the natural efforts were such that it was evident artificial aid would be absolutely required. After thorough preparation the patient was chloroformed, forceps were placed in position, and the child delivered. By removing the forceps before the fetal head has passed over the perineum we avoid the lacerations which sometimes occur when delivery takes place with the forceps in position. I believe it is not good practice to endeavor to rotate the head of fetus with forceps in position, although we are at times advised to do so.

Upon making the usual call the next day I found patient to have a degree of fever. I frequently find a slight fever on second or third day, to which I pay no attention. There is a decided difference between the fever of sepsis and that of exhaustion or reaction. We may do harm by ordering vaginal injections in such cases. However, when the discharge is offensive, with fever or without, I invariably use vaginal douches. If no rapid and decided improvement takes place, irrigate the uterus, and in every case inspect cervix and vagina.

There is no class of cases where symptoms vary more widely than in premature deliveries, although the cause is the same in each. If, in such cases, I find the os dilated, pain and hemorrhage, the prospect of saving the child is poor indeed.

Driving, as we do, many miles in the country to see such patients, I have made it a practice to dilate rapidly, if necessary, and turn out the entire contents of the uterus. The prospect of hemorrhage following a complete operation of this character is slight. The danger in those cases comes from leaving some of the after-birth intact. Here, again, the trust-to-luck obstetrician is apt to have a sudden or remote death on his conscience.

It is very essential that we manage breech presentations with great caution. Until the breech appears in the vulva there is, as a rule, no danger to the child. But we must act quickly when the breech appears.

If we have hastened labor by force, there is the danger of the head approaching the brim of the pelvis before dilatation is fully established. If dilatation is not fully established, then the labor will be most difficult. Force and haste on our part, when neither are called for, is the great difficulty in those cases. The temptation is great. Avoid it. The lower uterine segment offers the obstruction in a large majority of those cases when we are inclined to attribute the cause to a contracted pelvis.

Deliver both upper extremities with the body of child. Place forearm under the body, and fingers

in child's mouth and make traction on breech. Force should be exerted toward the pelvis of child to avoid fracture of the femur. I have never been obliged to place forceps on breech to aid delivery.

Let us shortly consider a few diseases that influence the course of pregnancy. Abortion and premature labor may be caused by an attack of pneumonia. Pneumonia, during the last few months of pregnancy, is especially to be dreaded, as fully one-half the cases die. Hence our prognosis should be grave. If the mother, in such a case, is threatened with asphyxia, we are justified in causing premature delivery.

Pleurisy may cause premature delivery, but the course is not influenced by pregnancy to any great extent.

The tubercle of consumption will, if the general condition of the patient is good, remain in a latent state during pregnancy, but when the patient is debilitated the disease generally breaks out with renewed vigor. Such persons should not be permitted to nurse the child.

Auto-intoxication arises from sluggish action of the kidneys and liver. The earlier in pregnancy the lesion of the kidneys manifest itself, the more serious for both mother and child.

I am in the habit of sitting by the bedside in every instance and occasionally kneading the uterus—to insure contraction—for one full hour after the delivery of the placenta. Never leave the house while the woman has a pulse of over one hundred. When we feel hard, firm contraction, with a steady pulse and a temperature below one hundred, we may turn to our couch and sleep the sleep of sometimes profound exhaustion.

## MEDICAL PROGRESS.

### SURGERY.

**Cervical Zones of Hyperalgesia after Cerebral Injuries.**—It is an accepted fact that where areas of the skin present certain sensory disturbances, the cause of the latter may be found in some lesion in an internal organ. R. MILNER (*Berl. klin. Woch.*, April 25, 1904) believes that with some modifications this principle may also be applied to injuries of the head. He reports a case where, after the infliction of a bullet wound which involved the surface of the brain, but did not lead to any marked general symptoms, localized areas of analgesia could be mapped out in the neck. In this instance there was probably a direct irritation of the minute divisions of the sympathetic, either in the pia or in the gray matter, and the extent of the hyperalgesic zone corresponded to one of the upper cervical segment, probably the second. The author thinks that further study of these zones may be helpful in the diagnosis of cerebral injuries, especially when the picture afforded by the X-rays is not sufficiently clear or conclusive.

**New Method for Exposing the Liver.**—A novel operative procedure for reaching the posterior surface of the right lobe of the liver has been suggested by J. ISRAEL (*Deut. med. Woch.*, March 31, 1904). The patient which he reports was believed to have a tuberculous right kidney. There was pain on pressure in the lumbar region, which was believed to be due to the kidney. The latter was exposed from behind after resect-

ing the twelfth rib and then pushed to one side after being freed from its attachments. The posterior aspect of the right lobe of the liver was thus exposed and on it was seen a tumor, which was removed. It proved to be a gumma and the patient made a good recovery under appropriate treatment. Although there may have been some doubt as to the propriety of surgical intervention in this case, still the advantage of reaching this region of the liver was shown. It is indispensable however, that the pedicle of the kidney is sufficiently long to permit pushing the kidney to one side.

**Appendicular Inflammation.**—An important fact to bear in mind, that so long as the mucous membrane is intact there can be no infection of the appendix from within. This layer also contains numerous large lymph follicles, which later may extend throughout the next two deep layers. To these lymph follicles, LOUIS FRANK (*Am. Jour. of Obst.*, March, 1904) attaches great importance. In numbers they vary. At the base of the lymphoid follicle, which is analogous to the solitary follicle in the large gut, there is an opening between it and the surrounding structures. This is the basal lymph sinus of Clado. Sometimes these follicles open directly upon the mucosa. The lymphatics of the appendix enter the mesoappendix, where some of them pass through a lymphatic gland, situated at the ileocecal angle. From the mesoappendix enter the mesentery and then pass onward. The lymphatics also communicate directly with those in the iliac fossa, along the course of the external iliac artery. The classification of catarrhal, suppurative, gangrenous perforative, etc., is all wrong from a pathological standpoint. It is not possible, even clinically, to always recognize the changes taking place in the organ, so it is better to speak of all cases as merely an inflammation of the appendix with suppuration, with rupture, with abscess, etc. This conveys a correct clinical or pathological idea of the condition laid before us. In all cases, whether the cause operate from without, as from embolus, hernia, etc., the one and sole cause of inflammation itself in the appendix is bacterial invasion. Without this there is no pus or inflammation, or even death, no matter what may be the interference with the blood supply. For bacterial invasion, loss of epithelium or greatly lessening of its vitality is necessary, and this is found to be true in all cases examined. Having once entered the lymph channels the organ is doomed, and though it may have been years since the bacterial entrance, they will be found upon examination, unless the inflammation has resulted in obliteration. The essential factor in all inflammation is bacteria, and no matter how active the predisposing factors may be, how extensive or severe the torsion of an organ may be, or how large the embolus present, so long as micro-organisms are excluded, no peritonitis will be found.

**Removal of One-half Thyroid Gland.**—The main difficulties in operations on the thyroid gland are: (1) Hemorrhage; (2) injury to the recurrent laryngeal nerve; and (3) expression of the contents of the gland by manipulation of the organ during operation. To avoid, so far as possible, these difficulties, J. G. SHELTON (*Med. Rec.*, April 9, 1904) employs a method which was previously used by A. P. Gould. After the gland has been exposed by either a transverse or angular incision, a Kocher's director is passed between the isthmus and the trachea. A stomach clamp is then placed upon the isthmus close to the lobe which is to be left, and another clamp close to the first upon the isthmus. The isthmus is then cut between the clamps and with the lobe to be removed is turned outward. The under surface of the gland is then separated from the underlying tissues with the finger covered by gauze. The arteries are thus easily seen and clamped, the inferior one gen-

erally first and the recurrent laryngeal nerve is usually easily found beside the inferior thyroid artery. After the arteries have been tied the veins do not bleed, and as it is very difficult to tie the arteries without previously cutting several veins where the gland is attached from in front and to the outer side, a great advantage is thus gained by the method described. Furthermore, when the enlargement of the lobe is of considerable size it is always external to the point where the superior artery enters it and hence the operation must necessarily be more or less bloody before the artery can be reached. The manipulation of the gland is also much less injurious when done by this method and the dangers of toxemia are diminished. Tubular drainage should always be used for ten to twelve hours on account of the profuse primary wound secretion and the danger that some of the gland contents may have been expressed.

### MEDICINE.

**The Blood Examination in Abdominal and Pelvic Diseases.**—During the past two years the value of the blood estimation in abdominal inflammations has received much attention by surgeons. In a critical review of the literature for this period, E. SCOTT CARMICHAEL (*Brit. Jour. of Obstet.*, Feb., 1904) finds that the various writers upon this subject have come to the following conclusions: The red blood corpuscles and the percentage of hemoglobin afford but little help in diagnosis, although in acute toxemias the amount of both is very considerably diminished. Their diminution, along with a slight leucocytosis according to Bender, is a sign of malignancy in tumors. A leucocytosis is undoubtedly more reliable than the temperature in the diagnosis of pus, especially in the more chronic cases. The tendency to look upon a certain definite number of leucocytes as indicative of pus must be avoided. In general there is not such a high degree of leucocytosis in purulent inflammations of the female genital organs as there is in such conditions of liver abscess and suppurative appendicitis. The more chronic the inflammation the lower the leucocytosis, so that a lower count in chronic inflammations must be regarded with suspicion. In gynecology it forms a most valuable aid to the differential diagnosis of tubal conditions, and is often of great value in determining the advisability of an abdominal or vaginal operation. The leucocyte count should be made at regular intervals and compared with the temperature curve. After operation the leucocyte count may indicate the completeness or otherwise of drainage in suppurating cases. The relative value of the quantitative and qualitative count is open to opinion. For the clinician the quantitative count is easily performed, and is sufficient in the majority of cases. The value of the qualitative count is diminished in value by the fact that much experience is required for the enumeration, which cannot be easily gained by the ordinary clinician. In the hands of the laboratory expert, it is probably of more value than the quantitative count for diagnostic purposes. The same may be said of the idiophlic reaction.

**Hypoleucocytosis in Typhoid.**—The great value from a diagnostic point of a hyperleucocytosis is known to all, but in one disease at least the opposite condition, hypoleucocytosis, plays an equally prominent part. In 53 mild cases of typhoid, L. KAST and C. GUTIG (*Deut. Arch. f. klin. Med.*, Vol. 80, Nos. 1 and 2), found the leucocytes below 7,000 in 47, between 7,000 and 9,000 in four and above 9,000 in two. For 31 severe cases the figures were 30, 1 and 0 respectively, and for 21 fatal cases 20, 1 and 0. Even the presence of complications caused by germs other than the Eberth bacillus is not likely to increase the number of white cells; thus for



25 cases the majority of which also suffered from staphylococcus infection, the figures were 20, 3 and 2. They included cases of severe bronchitis, lobar and lobular pneumonia, decubitus, icterus, colitis, etc. A constant leucocytosis is generally found only after hemorrhage so that no conclusions should be drawn in doubtful cases if an intestinal bleeding has occurred recently. Prognostically, relatively high counts seem to speak for a favorable outcome, if observed repeatedly, while a sudden decrease of lymphocytes is an ominous sign. Diagnostically, above 12,000 almost certainly rules out typhoid, while below 7,000 and more so, below 5,000, makes typhoid exceedingly probable. Other peculiarities of the blood are a tendency of the neutrophils to diminish, an absence of acidophiles and a slight decrease of lymphocytes up to the third stage when the latter begin to increase. Non-typhoid complications generally cause a slight, relative polynuclear increase which does not alter the leucopenia. The value of the various diagnostic aids in typhoid may be set down as follows: Widal 95 per cent., hypoleucocytosis 90 per cent., splenic tumor 86.6 per cent., diazo 75-85 per cent., roseola 69 per cent., while for the early diagnosis the order is as follows: Hypoleucocytosis, Widal, roseola, diazo and splenic tumor. The latter three are of about equal value. That hypoleucocytosis is of more value than the Widal in the first stage is evident from the author's cases where the latter was negative in about 13 per cent. Hypoleucocytosis may also occur in the following conditions: Inanition, measles, Banti's disease, severe secondary or essential anemia, malaria, pulmonary tuberculosis, tuberculous meningitis, acute miliary tuberculosis, sepsis and severe pneumonia. In many other conditions, the leucocytosis is first preceded by a diminished number, but this leucopenia is only relative since an accumulation of leucocytes occurs in the internal organs at the expense of the peripheral circulation. Diagnostic difficulties are only liable to arise with malaria (here the presence of plasmodia, of basophile punctuation and pathological changes in the shape of the erythrocytes, the normal or increased number of acidophiles and the occurrence of melanin in the leucocytes will aid), tuberculous meningitis, acute miliary tuberculosis, sepsis and severe pneumonia. In paratyphoid the blood composition seems to be the same as in typhoid.

**Deficient Urea Excretion in Gout and Lithemia.**—The diminished urea excretion which has been frequently noted in chronic gouty subjects has been generally attributed to the co-existing nephritis. R. K. MACALESTER (*Med. Rec.*, April 16, 1904) has made repeated examinations in some 20 cases of gout and lithemia unaccompanied by any demonstrable nephritic conditions and has invariably found that there is marked deficiency in the urea and uric acid excretion in these cases. This diminution is not present in chronic rheumatism and this fact, he claims, makes it easy by laboratory means to diagnose one condition from the other. The total urea output in gout, he finds, is considerably lower than that found in chronic Bright's disease, about two-thirds the amount excreted in other miscellaneous chronic disorders and about three-fifths the quantity excreted in health. He believes that it points to a defective hepatic metabolism, there being no clinical evidence of kidney trouble in support of the renal theory. Gout, goutiness and lithemia are thought to be of the same origin, but modifications of the same disorder and are, in general, more amenable to treatment, especially to balneotherapy than chronic rheumatic affections.

**Accuracy in Measuring Blood-Pressure.**—In order to determine accurately when the pulse disappears and reappears with the Riva-Rocci apparatus, G. GORDON and F. KISCH (*Munch. med. Woch.*, April 19, 1904) have

resorted to special apparatus which records the pulse-curve graphically. They find, however, that almost the same results are obtained with the palpating finger. With long-continued experiments the sense of touch may be blunted, but the eye may also fail to record the almost microscopical excursions of the accessory instruments. The rudimentary pulse-curves recorded upon the apparatus can generally be felt with the finger as well.

**Influence of Cold on Heart Action.**—It is quite universally believed that cold acts as a sedative to cardiac action. Some careful observations have been made on this point by W. KREBS (*Berl. klin. Woch.*, April 25, 1904) in a number of patients presenting various diseased conditions. He comes to the conclusion that a certain class of patients suffering from cardiac insufficiency, whether of an organic or a neurotic origin, are benefited by the external application of cold over the cardiac area. This is evident from the improvement in the pulse rate and increased arterial pressure. It is very likely, however, that the enforced quiet to which the patient is subjected is an important factor in bringing about a favorable result. No results of an objective character can be seen in other cases of heart disease and these methods cannot compare in their efficiency with digitalis. The application of cold is agreeable to the patient, but the writer has found that equally good effects are secured when the water employed is of an indifferent temperature. The application of a certain degree of moderate pressure over the cardiac area also seems to relieve the patient to a more or less marked extent.

## NEUROLOGY AND PSYCHIATRY.

**Treatment of Neuralgia by Injections of Osmic Acid.**—Severe cases of neuralgia frequently refuse to respond to any of the various methods of internal treatment and either become miserable morphine habitués or finally submit to a radical surgical operation, the mortality of which is considerable and the cure by no means certain. G. A. WRIGHT (*Med. Chron.*, Feb., 1904) advises a more careful use of the method by which osmic acid is injected into the nerve trunk itself after it has been exposed by dissection. He uses a one and a half or two per cent. watery solution of osmic acid and injects it directly into the nerve trunk or its branches, sometimes both toward the periphery and the center, and the acid escaping more or less freely into the tissues immediately around the nerve. He has tried this method on some thirteen cases with uniformly good results, but in many instances the length of time elapsing since the treatment has been too short to make any conclusion of value. The harmlessness of the treatment, when not done in a haphazard way, is generally conceded and should certainly be tried before resorting to such severe procedures as the excision of the Gasserian ganglion.

**Paralysis Agitans After Trauma.**—Traumatism is only in rare cases considered an active etiological factor in the production of this disease. K. RUHEMANN (*Berl. klin. Woch.*, April 11, 1904) states the results of careful observation on 35 cases and in 7 of these he claims that the disease could be distinctly traced to an injury. The characteristic symptoms of the trouble appeared in each case within a short time after the injury, and in few cases where there were indefinite signs before the trauma was inflicted, these grew rapidly and progressively worse soon after. The clinical picture did not vary much in the two classes of cases, but where an injury was assumed to be the cause, the disease usually appeared first in that limb which was subjected to the traumatism. In comparatively young individuals, who had been perfectly healthy before the injury, the latter can with certainty be put down as the cause for the dis-

ease, for in this instance age as predisposing factor can be excluded.

#### Influence of Alcohol on Cerebrospinal Pressure.—

In order to measure the cerebrospinal pressure under various conditions, R. FINKELNBURG (*Deutsch. Arch. f. klin. Med.*, Vol. 80, Nos. 1 and 2) introduced a trocar between the vertebrae and connected this with a manometer. After about half an hour the pressure will maintain a constant level and the action of various drugs can then be tested. If alcohol is introduced into the stomach of the animal with the stomach-tube, no change is noticed for eleven to thirty minutes. After that, the fluid will rise and then drop to the normal again in one to 3½ hours. Control animals did not show this rise and the pulse and respiration remained normal throughout the experiment. Probably the after-effects of an alcohol debauch in man, such as headache, hyperesthesia of the skin of the head, vertigo and slight stupor find their explanation in an acute hydrocephalus and general increase of cerebrospinal pressure.

### PHYSIOLOGY.

**Origin of Sugar from Proteid.**—Considerable doubt has recently been expressed by Pflüger and his school as to whether sugar is ever formed from albumin in the animal body. Many of the apparently positive experiments must be ascribed to the presence of glycogen in the liver and muscles, and the occurrence of glucosides and glycoproteids. H. LÜTHJE (*Deutsch. Arch. f. klin. Med.*, Vol. 79, Nos. 5 and 6) has gone over the field anew and comes to different conclusions. A number of dogs whose pancreas had been extirpated, excreted much more sugar after the operation than could be ascribed to their glycogen or the carbohydrates contained in the food. Furthermore, a diabetic patient was kept for months on meat, eggs and coffee; as soon as casein was added to the diet, the amount of sugar in the urine increased at once. There can thus be little doubt that proteid forms one of the sources of sugar.

#### Effect of Drugs on the Coagulation Time of Blood.

—A drug which materially shortens the time of blood coagulation would be a valuable addition to the Pharmacopoeia. T. R. BOGGS (*Deutsch. Arch. f. klin. Med.*, Vol. 79, Nos. 5 and 6) has tried most of the substances usually recommended, chiefly with negative results. Gelatin, when injected into animals intravenously or subcutaneously, seems to have very slight or no influence, even if coagulation is first retarded by injecting leech-extract. The same may be said of gum arabic, milk, the serum of other animals, and distilled water. Even serum which had been rendered active, so that coagulation was exceedingly rapid in the test-tube, had no appreciable influence when injected. Thrombokinase, such as is obtained by macerating different organs, especially the thymus and liver, cause rapid clotting, but proved very toxic to animals. Therapeutically, the best results were always obtained with lime salts, and the lactate of calcium is especially recommended as it is almost tasteless.

**Presence of Iodine in Organs.**—The presence of iodine in the thyroid was regarded as peculiar for that organ, until J. JUSTUS (*Virchow's Archiv*, Vol. 176, No. 1) showed that this element is present in all the tissues with the sole exception of the yellow bone-marrow. The liver and kidneys especially give high figures, as well as skin, hair and nails. The stomach is nine times richer in iodine than the succeeding duodenum. The simplest method of determining approximately the amount of iodine is as follows: The comminuted organ is boiled with caustic soda, evaporated and incinerated. The residue is treated with peroxide of hydrogen and water, filtered, the filtrate acidified with sulphuric acid,

then treated with sodium nitrite and shaken with benzol. Free iodine will be liberated and will be taken up by the benzol. The color of the latter can then be compared with a standard solution.

**Origin of Sugar from Fat.**—Continued researches of H. LÜTHJE (*Deutsch. Arch. f. klin. Med.*, Vol. 80, Nos. 1 and 2) show that sugar may be formed in the organism from fat, as well as from proteid. An artificial glycosuria was created in a series of dogs by extirpating the pancreas. When a certain, definite amount of glycerin was added to the food, the excretion of sugar was always higher than before. The difference could not be accounted for by the glycogen present, or the amount of proteid injected.

**Temperature and Secretion of the Normal Stomach.**—In a patient with absolutely normal stomach, a gastric fistula had formed secondary to a severe abdominal operation. G. GALLI (*Münch. med. Woch.*, April 19, 1904) used this case to determine any variation in temperature, especially in relation to food. The temperature in the empty stomach seems to be the same or slightly increased as compared with that of the full organ and no definite relation to the rectal measurements could be obtained. When the temperature inside the stomach was increased or diminished by heat or cold food, it took about an hour before normal figures were again obtained. Physiologists are of the opinion that the stomach never secretes gastric juice except in the presence of food or if stimulated reflexly by the sight or smell of food or by chewing. In the author's case, however, gastric juice was frequently found without any apparent reason for its presence. Another interesting observation was the occasional absence of free acid during the height of digestion. The following figures were obtained for total acidity: One hour after dinner, 45; three hours, 55; five hours, 65. An experiment with salol proved that this drug is never decomposed in the stomach.

### HISTOLOGY, PATHOLOGY, ETC.

**Fat in Blood of Immunized Animals.**—Many researches have been published concerning the proteid changes in the blood of immunized animals, but M. HAHN (*Münch. med. Woch.*, April 19, 1904) was the first one to systematically investigate the fat. The extract obtained by shaking the blood with petroleum-ether was invariably greater with immunized than with normal animals, and of the many substances which are dissolved out by the ether, the fat was especially increased. There is thus a definite relation between the bactericidal power of the blood and the amount of fat it contains. The origin of the fat could not be determined; it is probably not derived from carbohydrates or proteids.

**Forensic Identification of Human Blood.**—In a second communication, H. MARX and E. EHNRROTH (*Münch. med. Woch.*, April 19, 1904) lay considerable stress upon the phenomenon of isoagglutination. Human blood will frequently be agglutinated by the blood of some other human being, owing to the presence of isoagglutins, but there are marked variations in this respect, since some blood is very poor in these substances. This agglutination by homologous serum is slow; the different erythrocytes retain their contour and the hemoglobin does not dissolve out, while with heterologous serum the disintegration is complete. Isoagglutination is lost if the blood has dried for two to four weeks, while hemocytolysis is still pronounced after three years with heterologous agglutination. The serum of an animal A which will agglutinate the cells of an animal B, will lose this property if A is treated with the serum of B. On the other hand, human serum C,



which will agglutinate the human cells of *D*, will agglutinate still more strongly if serum *C* is treated with serum *D*. This will afford a simple means of distinguishing between homologous and heterologous clumping. Thus, if agglutination occurs in a specimen of blood heated the usual way, it is only necessary to add a drop of diluted blood from the examiner's finger. The agglutinating serum came from a different species if the clumping is less after this addition, from the same species if it is increased. The test should always be controlled by the original Uhlenhuth reaction.

**Localization of Macula Lutea in Brain.**—Though the visual area of the cerebral cortex has been pretty well studied there is still considerable doubt as to which part represents the point of maximum vision in the eye. In a large monograph recently published the opinion was expressed that the anterior portion of the calcarine fissure represents the macula lutea, but an interesting case observed by L. LAQUER (*Virchow's Archiv*, Vol. 175, No. 3) seems to argue more for the posterior portion. About one year before death the patient developed a bilateral hemianopsia but retained excellent vision in a small central area. At autopsy, the right occipital lobe was found softened in the neighborhood of the calcarine fissure, except in the most posterior portion; about 18 mm. from the tip of the lobe, where cortex and medullary portion were completely intact. Much the same condition was found in a second case where a bullet had pierced the back of the head. It seems a wise provision of nature that a center is located in each hemisphere.

**Pathology of Cystic Kidneys.**—The most peculiar feature noticed by O. RUSSE (*Virchow's Archiv*, Vol. 175, No. 3) while studying six fetal cystic kidneys, was the large amount of connective tissue present. The large size of the organs seems to depend more upon this than upon the cysts themselves and the entire condition would be called fibroma more appropriately than adenoma. The fibers are generally very delicate and resemble those met with in fibroma molluscum; toward the pelvis they are frequently mixed with true muscle fibers and may even contain cartilage. There is no question that the cysts originate from the glomeruli, and the papillary excrescences on the inner wall, which were formerly looked upon as confirming the adenomatous character of the growth, are merely the remains of the glomerular loop. The convoluted tubes also participate, but to a much less extent. The author does not think cystic kidneys should be classed under true tumors or that they should be looked upon as results of interstitial inflammation leading to obstruction of the apices of the papillae, for he has made the important discovery that they bear a very close resemblance, even in minor histological details, to the normal organs of very early fetal life. If the embryonal condition remains owing to some inhibitory influence, cystic kidneys will result. During the normal process of development, the proliferating tubules will gradually replace the connective tissue until little of this is left. In many cases the patients have evidences of faulty development elsewhere, such as hydrocephalus, syndactyli and cysts in liver and pancreas. The finer structure of cystic kidneys of adults differs considerably from that of the newly born, in that there is more renal and less connective-tissue. The glomerular origin of the cysts is not so evident and they generally lack the characteristic, thick, fibromuscular wall in the cortex. Probably the condition here depends also upon a disturbance in development, but so circumscribed that only a small portion of the kidney is rendered inactive, unless the growing cysts cause compression and secondary atrophy of the adjacent tissues.

**Peritoneal Exudate, an Early Symptom of Perforation Peritonitis.**—Since Wegner's important work, the remarkable absorption power of the peritoneum, both for infections and intoxications, will always be regarded as definitely proven. Moszkowicz has studied this question from the clinical standpoint, his observations having been based chiefly on cases of appendicitis. C. S. HAEGLER (*Zentralbl. f. Chir.*, March 12, 1904) states that he has been carrying on experimental work on animals for the last year with a view of determining what symptom became most prominent after perforation. He agrees with Moszkowicz that a serous exudate is the first recognizable factor and states that he found its quantity to be invariably in proportion to the extent or the virulence of the infection. One may consider this serous or, as it may be, hemorrhagic exudate of the peritoneal cavity a protecting factor having a double mode of action. If protection be needed against a very virulent toxin or a multiplicity of bacteria in the neighborhood of the site of infection, the exudate will be of a thin and serous character in order to dilute the toxins and the bacteria as freely as possible. Infections of a more diffuse character call for and receive less dilution and a greater amount of fibrin. It is not to be doubted that in the case of local inflammations of the bowel wall, the development of a copious amount of fluid in the peritoneal cavity is a bad prognostic sign. It shows that no tendency toward walling off has taken place and that great quantities of highly poisonous toxins or germs or both, have been liberated in the peritoneal cavity. This symptom points very persistently to a bad prognosis.

**Clinical Aspects of Rheumatic Infection.**—The reexaltation of the virulence of pathogenic organisms has long been a favorite topic for discussion. CAREY COOMBS (*Lancet*, Feb. 27, 1904) cites a large number of cases which appear to give striking corroborative evidence of this belief. He sums up his conclusions as follows: It is common to see a woman, thirty-five years of age, with mitral stenosis who has had rheumatic fever at the fifteenth or twentieth year without recurrence. The symptoms of cardiac disease often do not appear until many years after the arthritis. Necropsy shows extreme fibrosis of the mitral valve. It seems a more probable explanation of this thickening that it has been brought about by chronic irritation due to organisms of lowered virulence than that it sprang from the infection at the period of its fastigium. A case of the nature under consideration sometimes breaks out into malignant endocarditis. This is usually ascribed to reinfection of previously scarred valves, but the author cites a case in detail purporting to show that such reinfection did not occur, the disease having been awakened from resident germs of lowered vitality. The vegetations in this case contained swarms of micrococci apparently corresponding to the *Micrococcus rheumaticus* as described by recent authors. Again, relapse is common in rheumatic fever; even commoner than in enteric fever, occurring in about 20 per cent. of all cases. Rheumatic affections tend also to recur at intervals too long to call them relapses. Cases of acute rheumatic arthritis with aortic incompetence who are reported as having suffered with rheumatic fever seven or eight years before with one or two attacks in between times are not by any means rare. If such a condition is to be brought about by reinfection, it is without parallel in the history of microbic diseases. It is true that many of the infections are capable of prolonged periods of latency, to wit: Tuberculosis with its quiescent foci, *Bacillus typhosus* in bone lesions, *Bacillus coli* in the liver and gall-bladder, *Staphylococci* in bone marrow, and so on. If all these organisms can remain latent, reasserting them-

selves as soon as they get a chance, why should the *Micrococcus rheumaticus* be held to differ from them in this respect?

**Agglutination of Typhoid Bacilli by Other Bacteria.**—That typhoid bacilli are frequently agglutinated by the serum of animals treated with the various members of the colon group is well known. D. LUBOWSKI and D. STEINBERG (*Deutsch. Arch. f. klin. Med.*, Vol. 79, Nos. 5 and 6) claim a similar action on part of a number of other bacteria. In two cases of otitic proteus infection, one of which was also complicated by staphylococcus and streptococcus infection, an agglutination of typhoid germs in a dilution of 1-80 was observed after two hours by the microscopic method. The autopsy did not reveal any lesions suggestive of typhoid and the previous history was negative. This agglutination can also be observed in some, but not all rabbits or guinea-pigs, treated with injections of proteus or staphylococcus culture. With *Streptococcus*, *Bacillus cholera Asiatica* and the *Bacillus fluorescens liquefaciens*, no agglutination was obtained.

### OBSTETRICS AND GYNECOLOGY.

**The Origin of Vaginal Cysts.**—It is most difficult to classify a certain number of the cysts from the point of their origin for, says PIERRE FREDERT (*Annales de Gyn. et d'Obstetrique*, March, 1904), it is not to be shown from exact date nor can it be demonstrated that certain possibilities are probable from our anatomical knowledge. It can only be proven with certainty by their Wolffian origin (ducts and pseudoglandular canaliculi) and the vulvovaginal origin. A cyst situated high up in the vagina upon the lateral walls, may be, perhaps, Wolffian in origin; if it is situated low down, it probably is a cyst of an aberrant vulvovaginal gland. The origin of those cysts of the anterior wall is in doubt; above their origin depends upon aberrant cervico-uterine glands; along the rest of the vagina near the median line, cysts take their origin from aberrant urethral glands. Of all vaginal cysts, the most difficult to explain are those in the posterior portion of the vagina; all high up and to the side, are thought to be derived from pseudoglandular diverticula of the canal of Gärtner; to be from the canaliculi of the para-ophoron of the Wolffian body; below, on the median line, they must be considered as an embryonal cul-de-sac of Douglas; near the vulva, both anteriorly and posteriorly, are to be found vulvovaginal glands.

**Abscess of the Uterus.**—The development of such a condition in the wall of the uterus is of sufficient rarity to justify the publication of every undoubted instance. A. W. W. LEA (*Brit. Jour. of Obstet.*, Feb., 1904) relates a case where the abscess developed during the puerperium in a patient who was suffering from gonorrhea at the time of delivery. Its existence was not suspected until the abscess ruptured into the peritoneal cavity. Six weeks later abdominal section was performed, and the condition recognized. The patient made a good recovery. The symptoms of abscess of the uterine wall must often be obscure. As the condition is frequently complicated by intrauterine and pelvic inflammation which must render its recognition in many cases almost impossible, Von Franqué, in 15 collected cases, gives the following points as suggestive of this condition: (1) Pyrexia. This often commences suddenly, and is accompanied by rigors. There is nothing characteristic about the fever, but may continue indefinitely, especially in gonorrheal cases. (2) Pain. This is usually severe, paroxysmal in character, and felt in the lower part of the abdomen. (3) Physical signs. The uterus is enlarged, softened and very sensitive. In some cases a rounded swelling has been detected, often

situated asymmetrically, and accompanied by signs of pelvic inflammation. It is obvious that these symptoms are not very definite. A small infected myoma of the uterus may produce quite similar symptoms, and it would be in many cases impossible to distinguish between this and abscess. Abscess of the uterus usually terminates by perforation, most often into the peritoneal cavity, but it may also perforate into the rectum or uterus.

**Prophylaxis of Puerperal Sepsis.**—In spite of the many advances which have been made toward aseptic surgery during the past two decades, we are still confronted with the deplorable fact that outside of lying-in hospitals, sepsis now claims as many if not more of the parturient mothers than it did twenty or forty years ago. G. L. BRODHEAD (*Med. Rec.*, April 23, 1904), in pointing out one of the most prolific causes of puerperal sepsis, shows that the vaginal secretion from healthy women is absolutely free from pyogenic cocci but that such bacteria are present often in large numbers upon the hymen and labia. There is no doubt that, as a rule, the germs are carried in on the examining finger and we thus find that internal examinations are undoubtedly the cause of a large number of deaths. He lays especial stress upon the fact that very few internal examinations are necessary and in many cases they need not be made at all after labor begins. The antepartum examination should be made thorough and complete to exclude, as far as possible, the chance of complications at the time of confinement. A careful external examination at the latter time will give in most cases all the information that is necessary. The diagnosis of the presentation, engagement and position can almost invariably be made out externally. The condition of the child's heart and the character of the pains will, furthermore, give fairly accurate information to an experienced person of the satisfactory progress of the case. Where internal examination is necessary he recommends the use upon the vulva of a solution consisting of chloride of lime, one teaspoonful, and acetic acid, two teaspoonfuls, to the quart of water. A solution twice as strong as the above may be advantageously used to disinfect the hands after they have been thoroughly scrubbed.

**Local Anesthesia in Gynecological Operations.**—That a limited sphere should be assigned to general anesthesia and more liberal use made of local anesthesia, is the suggestion made by J. C. WEBSTER (*Jour. Am. Med. Ass'n*, April 23, 1904). The former is of value in making a diagnosis in certain classes of patients, but instead of using ether or chloroform, he prefers nitrous oxide gas given with the Packard inhaler. Where extensive plastic operations are to be done, or where these may be followed by abdominal work, the Schleich solution No. 2 may be advantageously employed, a small amount of formalin being added to lessen the risk of infection. The author has performed various plastic operations on the vulva, cervix and vagina, and has also extirpated the diseased uterus and adnexa through the vagina. The abdominal operations which were done included the removal of tubes and ovaries, shortening the round ligaments, myomectomy, hysterectomy, appendectomy and resection of the intestine. A strong suggestive influence is obtained by sprinkling a few drops of chloroform on a mask held over the face. In extreme anemia and sepsis, the local anesthesia greatly diminishes the risk, and he cites a case of ruptured ectopic where the hemoglobin was less than 24 per cent. With regard to the sensibility of the various tissues, it was found that the parietal peritoneum was usually most sensitive, especially when sutured or dragged upon. Separation of adhesions between the parietes and any other structure causes pain, whereas the breaking of adhesions between viscera rarely causes distress.



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## PROPHYLAXIS OF FOURTH OF JULY TETANUS.

SHORTLY after the Fourth of July last year, we called attention to the large number of fatal cases of tetanus which had occurred in this country as a consequence of the celebration of the Glorious Fourth. Since then determined effort has been made in a number of parts of the country to organize rational opposition to the present methods of celebrating the Fourth, at least to bring about the amelioration of certain of the most objectionable features of the celebration. Unfortunately this movement did not meet with the success that it deserves. It is true some of the eastern cities have passed laws forbidding the sale of pistols that fire blank cartridges, and some have also made ordinances with regard to the size of the firecrackers that will be allowed to be used. Philadelphia especially, under the influence of wide-awake methods in the Board of Health, seems likely to limit fatalities.

In general, however, it would seem that nearly the same fatal results may be expected this year as last. During June and July, 1903, according to the statistics collected by the *Journal of the American Medical Association*, there were 406 deaths from tetanus and 60 deaths from other causes as the result of Fourth of July accidents

due to fireworks. Besides this there were nearly 4,000 non-fatal injuries of sufficient seriousness to be reported to the police, or be received into hospital dispensaries.

The one hope is to prevent the development of tetanus in these cases, if possible, for, so far, no medical or surgical treatment of any kind seems to be effective in preventing a fatal termination if there has been serious infection by the disease. This is not hard to explain if we remember that the first symptoms of tetanus are not those of the beginning of the disease, but as has been well said by a distinguished German authority, are the first manifestations of beginning death from the disease. Last year, of all the cases of tetanus reported following injuries by fireworks, less than ten were reported as recovering. With recoveries so rare it is reasonably sure that all that actually took place found their way into the statistics, since attending physicians and surgeons would be glad of the opportunity to report them. It is very probable that some fatal cases of tetanus at least did not find their way into the statistics. The mortality then must be considered as well above 95 per cent., and recoveries were due not to any treatment employed, but to the fortunate accident of a mild infection, or some specially favoring circumstance in the method of infection or a high resistive vitality.

The prophylaxis of tetanus then becomes the great problem in the treatment of wounds received from fireworks, at this time. As far as could be ascertained of the 406 fatal cases of tetanus, 363 developed as the result of wounds inflicted by blank cartridges. Tetanus from all wounds inflicted by other kinds of fireworks, as far as could be found out, occurred in only about thirty cases. It is evident then that special attention must be given to the treatment of blank cartridge wounds. These are always deeper and more serious than they appear to be. The paper wad from the cartridge is often driven some distance into the tissues. When the wound is in the palm of the hand, as is so often the case, portions of the thick skin of the palm are usually carried with it. During the course of the celebration of the Fourth, hands are sure to be grimy with street dirt. Street dirt in our large cities always contains the tetanus bacillus. If these bacilli are thus carried deeply into the tissues then they find specially favorable circumstances for growth, in the absence of oxygen. The one absolutely necessary precaution is to clean the wound out thoroughly, removing all foreign

material and then pack it in such a manner as to allow free ingress of air and free exit for secretions.

This is not as easy always as it might seem. Portions of the wad from the blank cartridge are sometimes carried through between the bones of the hands and are driven along tendon sheaths to some distance from the point of entrance. In order to secure their thorough removal, considerable surgical manipulation of the tissues is required. As a rule, young patients will not permit this prolonged painful surgical intervention and even parents are almost sure to consider that it is unnecessary. In order to make a thoroughly satisfactory cleansing, anesthesia will usually have to be employed, especially if the wound has been inflicted by a blank cartridge pistol pointed directly and at a short distance from the tissues. Powder grains carrying dirt from the skin will also be found imbedded here and there in the tissues and must be removed for assurance sake. These wounds have been treated, heretofore, as a rule, in a superficial way and now an entirely different method must be employed.

The result of such thorough treatment has in at least one set of reported cases proven very satisfactory. Drs. Allen and Ludlow reported ten cases, treated in Cleveland last year by the painstaking method described above, and not one of them developed tetanus. Five cases on the other hand, treated superficially, and sent into the hospital afterward, all developed tetanus. Results less striking, because observations had been made on fewer cases, but quite as satisfactory in the limitation of fatality, have been reported from other parts of the country. In one case at the Massachusetts General Hospital, tetanus bacilli were even found in the secretions from the wound, but it had been thoroughly cleansed and packed so as to allow free contact with the air, and no symptoms of tetanus of the nervous system developed.

The other element in prophylactic treatment, as far as the physician is concerned, is the injection of tetanus antitoxin. It is now pretty generally conceded that though this will neutralize the toxin of the tetanus bacillus, when it can reach it directly, it is not able to undo its effects once the toxic principle has become united with the nerve cells and incipient death from tetanus has announced itself. In the immediate neighborhood of the wound, however, its injection can scarcely fail to do good by neutralizing any tetanus toxin that may be absorbed from the focus of local in-

fection which always characterizes the development of tetanus. Thousands of injections of tetanus antitoxin have now been made without any bad results being reported, so that there need be no fear in using it freely, even to the extent of ten cubic centimeters a day for several days after the wound has been properly treated. This can scarcely fail to be an adjuvant in the treatment and add to the assurance of complete prophylaxis of tetanus of the nervous system. In horses, this method, according to Dr. MacFarland, is almost a guarantee.

An external non-medical means of prophylaxis would be the withdrawal of the permission to use toy pistols which fire blank cartridges, and the forbidding of the large giant crackers in the celebration of Independence Day. Roman candles and rockets and the small firecrackers with paper caps and torpedoes were last year responsible for none of the cases of tetanus that occurred. If the elimination of these objectionable forms of making noise, which have no special advantage in patriotic motives, could be effected, then there would be much less danger in Fourth of July wounds and much less complaint of the nuisance of the celebration. These constitute the most objectionable and least defensible features in the present method of celebrating the Fourth. Surely the common sense of the community will back up the medical profession in securing this amelioration of present conditions which is likely to have so wonderfully beneficial an effect.

#### MICROBES AND CANDY.

THE editor of the *Ladies' Home Journal*, as we recently pointed out, has undoubtedly done a real humanitarian work by calling the attention of women generally to the patent medicine evil and pointing out how much of alcohol and opium and other undesirable drugs were being absorbed in this supposedly harmless fashion. He has very properly come to realize that much good can be accomplished by pointing out the medical dangers of other substances besides patent medicines, of which women consume large quantities. In his columns for the present month attention is very properly called to the number of evils that may flow from an excessive consumption of candy. The articles are likely to attract special attention because it is more than hinted that overconsumption of candy may readily lead to pimples and blackheads and other lesions which young women find especially undesirable. There



is no doubt that much of the unsightly acne of young growing girls is due to digestive disturbances, of which one important etiological factor is the overfree indulgence in many forms of sweetmeats now so common among the rising generation in this country.

These warnings with regard to candy are very properly found in the department of the *Ladies' Home Journal*, conducted by a physician. Some of the lessons of this department are emphasized by special editorial comment, however, and as a result we have some rather ridiculous pseudo-medicine furnished the million readers of the *Journal*, which is almost sure to do more harm than good. It seems very clear that if Mr. Bok himself writes the editorial page, and the tradition in newspaperdom is that he does, then he should have a physician, and one on whom he can depend, blue pencil his editorial effusions, whenever they touch on medical subjects, before he allows them to appear.

His readers of this month are treated to the following ludicrous exposition of the dangers of dust in candy: "A prominent physician, whose word is equivalent to that of highest authority, was standing beside the candy counter in a large department store not long ago when he said: 'Just look at those women buying that candy for themselves and their children. That candy has been exposed all day, while hundreds of people have passed by, shuffling their feet, and raising thousands of particles of dust from the floor. Most of that dust is brought from the street and contains every kind of the most dangerous germs and microbes of disease. Candy is, of course, sticky, and on account of its adhesive character everything sticks to it. Last week I came here and bought a quarter of a pound of each of four different sorts of candy which had been exposed on that counter only during the morning—just three hours, remember. I put the mass under the microscope, and amazed my clinic with what they saw. There were typhoid and malarial germs absolutely without number—the candy was literally covered with them.'"

It would be interesting to know just how the "prominent physician" succeeded in demonstrating the germ of malaria on the candy. He will confer a great favor on the medical profession of the world if he will only tell them just how the feat was accomplished. So far it has been the problem of modern medicine to discover a malarial germ outside of the bodies of animals and of certain insects. It is supposed that they

do exist in some way outside of living circulating blood, but until Mr. Bok's announcement there has been no definite report of this available. If candy is the medium on which the malarial organism can be raised with ease it will not be long before all our laboratories will be furnished with a supply for the purpose of studying the stages of the life cycle of the malarial plasmodia which so far have proved rather baffling in their mysteriousness.

With regard to the typhoid fever germ we wonder just how its isolation and recognition were so readily accomplished. One of the puzzling problems of modern bacteriology has been the definite recognition of the typhoid germ from a number of organisms more or less normal to the human intestines, and which occur so commonly, is another point which we would like to have the good editor of the *Ladies' Home Journal* elucidate.

We do not think that there is a single case on record so far in which the origin of typhoid fever has been traced to the eating of candy. It is very evident that the boards of health, throughout this country especially, in our large cities have been seriously neglecting their duty in not warning people with regard to the dangers of candy, and now it would seem at last that an explanation of the many mysterious cases of typhoid fever, which have so far baffled investigation, is at hand.

The good editor of the *Ladies' Home Journal* has been tempted to use medical thunder, but evidently without quite realizing that it is loaded and that sometimes it strikes where it is least expected. The poor germ theory is responsible for enough of the ills to which this human flesh is heir without making it responsible for any more. There is no need for any exaggeration and, unfortunately, non-medical writers, when they want to emphasize a point, are almost sure to exaggerate and thus bring the germ theory into disrepute.

## ECHOES AND NEWS.

### NEW YORK.

**Tuberculosis and City Dust.**—Street Cleaning Commissioner Woodbury has made public the result of his medical examination of the sweepers of the department. Out of a total of 1,872 men 283 were found to be afflicted with pulmonary complaints. Of this number 60 had pulmonary tuberculosis. This percentage, Dr. Woodbury said, was not much above the average, but the percentage of the men found to be afflicted with the lesser forms of lung diseases and bronchial troubles was far above the average.

**Miss Delano Acting Superintendent of the City Hospitals.**—Miss Jane Delano, head of the training school for nurses at Bellevue Hospital, will have charge of the city hospitals during the absence of Acting Superintendent N. J. Rickard.

**Care of the City Poor.**—The New York Association for Improving the Condition of the Poor are doing a vast amount of good and while they are necessarily expending a large amount of money it is more than saved when it is considered that the people whom this association is helping would fall to the care of the city hospitals. The following figures taken from the *Times* show the extent of the work. Eighty-one mothers and 165 children were taken this week to their summer home at West Coney Island at a total expense of \$663. The association hopes to send 13 more such groups from the crowded tenement districts. To do this will cost \$8,643. Five dollars will send a mother and baby to the sea shore for a week, \$10 will send a mother and three children. A bed may be named for the summer for \$25. Treasurer, Robert Shaw, No. 103 East Twenty-second Street, to whom all contributions should be sent.

**The Late Dr. John Metcalfe Polk.**—At a meeting of the Medical Association of the Greater City of New York held June 13, 1904, the following report was presented and adopted:

It is the sad duty of the committee to report to the association the death, from pneumonia, of Dr. John Metcalfe Polk, younger son of Dr. William Mecklenberg Polk, long a practising physician of high standing in this city.

Dr. Metcalfe Polk was born on May 6, 1875. He was graduated from Yale in 1896 and from the Medical Department of Cornell University in 1899. He then entered Bellevue Hospital as interne and after remaining there two years went to Vienna to perfect himself in pathology and medical diagnosis. On his return from abroad he was appointed Instructor in Medicine and Physical Diagnosis in the Cornell Medical College and Assistant Visiting Physician to Bellevue Hospital.

At the time of his death he had just completed an exhaustive study of pneumonia. He had written and was about to publish a paper on "The Blood Changes in Pneumonia," which promised to bring to the attention of the profession some very important and original ideas.

The untimely death of Dr. Polk has removed from the ranks of the profession one of the most brilliant of its younger members. He had prepared himself through his great natural abilities and untiring energy to begin a professional life of unusual promise. At the time of his death he was pursuing with enthusiasm those branches of science the investigation of which would mean for him the broadest and most durable foundation of future success.

His gentle manners, unselfishness and sterling character had won for him warm friends among the best of the profession, both old and young. To the older men who knew him his death will mean the sacrifice of a career which the profession can ill afford to lose—to the younger, the loss of a model well fitted to inspire earnest emulation.

**Resolved,** That the association tender their deepest sympathy to his sorrowing father and mother, and that this note be entered on our minutes and a copy be sent to the family. Henry P. Loomis, J. Clifton Edgar, Austin Flint, Jr., Committee.

**State Hospital for Tuberculosis.**—The following instructions have been forwarded: The trustees of said hospital to be appointed under and pursuant to the provisions of the act of incorporation, and their successors, are hereby given power and authority to receive therein patients who have no ability to pay, but no person shall be admitted to the hospital who has not been a citizen of this State for at least one year preceding the date of application. Every person desiring free treatment in said hospital shall apply to the local authorities of his or her town, city or county having charge of the relief of the poor, who shall thereupon issue a written request to the superintendent of said hospital for the admission and treatment of such person. Such request shall state in writing whether the person is able to pay for his or her care and treatment while at the hospital, which request and statement shall be kept on file by the superintendent of the hospital. Such requests shall be filed by the superintendent in a book kept for that purpose in the order of their receipt by him. When said hospital is completed and ready for the treatment of patients, or whenever thereafter there are vacancies caused by death or removal, the superintendent shall thereupon issue a request to an examining physician, appointed as provided for in section 12, in the same city or county, and if there be no such examining physician in said city or county then the nearest examining physician, for the examination by him of said patient. Upon the request of such superintendent said examining physician shall examine all persons applying for free admission and treatment in said institution, and determine whether such persons applying are suffering from incipient pulmonary tuberculosis. No person shall be admitted as a patient in said institution without the certificate of one of said examining physicians certifying that such applicant is suffering from incipient pulmonary tuberculosis. Admission to said hospital shall be made in the order in which the names of applicants shall appear upon the application book to be kept as above provided by the superintendent of said hospital, in so far as such applicants are subsequently certified by the said examining physician to be suffering from incipient pulmonary tuberculosis. Every person who is declared as herein provided to be unable to pay for his or her care or treatment shall be transported to and from the hospital at the expense of said local authorities. **Private Patients.**—Applicants for admission to this institution who are able to pay for their care and treatment are not required to obtain a written request from the local authorities having charge of the relief of the poor, but shall apply in person to the superintendent who shall enter the name of such applicant in the book to be kept by him for that purpose, as provided in section 13; and when there is room in said hospital for the admission of such applicant, without interfering with the preference in the selection of patients, which shall always be given to the indigent, such patients shall be admitted to the hospital upon the certificate of one of the examining physicians, which certificate shall be kept on file by the said superintendent. **Support of Free Patients.**—At least once in each month the superintendent of the hospital shall furnish to the comptroller a list countersigned by the treasurer of the hospital of all the free patients in the hospital, together with sufficient facts to enable the comptroller to collect from the proper local official having charge of the relief of the poor such sums as may be owing to the State for the examination, care and



treatment of the patients who have been received by the hospital and who are shown by the statement of such local official to be unable to pay for their care and treatment. The comptroller shall thereupon collect from the said local official the sums due for the care and treatment of each such patient at a rate not exceeding \$5 per week for each patient.

**Support of Private Patients.**—The trustees shall have power and authority to fix the charges to be paid by patients who are able to pay for their care and treatment in said hospital or who have relatives bound by law to support them, who are able to pay.

**Transfer of Sanitary Inspectors.**—Commissioner Darlington transferred all the five sanitary superintendents in the Greater City last week. "For the good of the service," is the reason ascribed by Dr. Darlington. The changes were: Dr. Patrick J. Murray, from Brooklyn to Queens; Dr. Walter Benschel, from Manhattan to Brooklyn; Dr. Gerald Sheil, from the Bronx to Manhattan; Dr. John T. Sprague, from Richmond to the Bronx; Dr. John P. Moore, from Queens to Richmond. When Dr. Darlington was questioned to-day about the changes he declined to discuss them other than to say they were made "for the good of the service," in the department—the stereotyped reason. The order went into effect to-day. Dr. Benschel, who took charge of the Brooklyn office immediately, laughed at the idea that there had been any politics in the shake-up. "I'm no politician myself," said he, "but I don't see where the politics comes in on this. There have been other shake-ups just like this one. There was one last summer. I got a taste of Brooklyn, and later was sent to Queens, the Bronx, and Richmond in succession. It has been the custom to give all the assistant sanitary superintendents a chance to get acquainted with the work in Manhattan. Whenever a new man is put in there everybody moves along."

#### PHILADELPHIA.

**Surgeon General of Pennsylvania.**—Dr. Joseph K. Weaver, of Norristown, has been promoted from division surgeon of the Pennsylvania National Guard to surgeon-general and chief of the medical department, with the rank of colonel. Major G. H. Halberstadt, of Pottsville, has been reappointed surgeon of the Third Brigade and Dr. J. C. Biddle assistant surgeon of the Eighth Regiment.

**Tablets in Honor of Noted Physicians.**—Memorial tablets to Drs. S. Weir Mitchell and Horatio C. Wood have been placed in the new medical laboratories of the University of Pennsylvania. The former was erected by Provost and Mrs. C. C. Harrison; that to Dr. Wood was dedicated to him by the trustees of the university in recognition of his services to the institution.

**To Prevent Fourth of July Casualties.**—The State Board of Health has sent a communication to the Mayor or Chief Burgess of every city and township in the State calling attention to the laws regarding the sale and use of firearms and fireworks; this is for the purpose of diminishing if possible the mortality from Fourth of July accidents.

**Appointment of Dr. Lloyd.**—Dr. James Hendrie Lloyd has been appointed visiting neurologist to the Philadelphia Hospital at Blockley. Dr. Lloyd formerly served on the nervous staff for thirteen years, but resigned in 1900.

#### CHICAGO.

**Commencement Exercises of Rush Medical College.**—This college, which is affiliated with the Uni-

versity of Chicago, held its commencement exercises June 15, when degrees were conferred on a class of 107. The Doctorate address was delivered by Dr. Charles G. Stockton, of Buffalo, N. Y.

**Increased Endowment.**—The Chicago-Farmington Society held a lawn fête in Winnetka recently, at which \$2,000 was raised to complete the endowment of the Sarah Porter room in the Passavant Memorial Hospital.

**Election of Dr. Murphy.**—Dr. John B. Murphy, of this city, was recently elected President of the Chicago Medical Society.

#### GENERAL.

**World's Fair Emergency Hospital Library.**—The Medical News may be found on file in the library of the Emergency Hospital at St. Louis this summer.

**Sanitation at Panama.**—Aboard the Panama Railroad steamship *Alliança*, which sailed last week for Colon, were Chief Engineer J. F. Wallace and Dr. W. G. Gorgas and a staff of sanitarians and nurses who are going to do preliminary work on the Panama Canal route. Dr. Gorgas said that within a year he would have the canal strip as healthful as Cuba. He will establish sewerage and drainage systems and exterminate mosquitoes and other disease carrying insects. A call will presently be issued for volunteer physicians and surgeons to serve in the Panama Canal zone under contract with the Government. The Army and the Navy Departments will assign surgeons and doctors to duty in this region, but as there are to be not less than 50,000 men employed in the canal construction work, it is evident that outside medical aid will very soon be needed. This need opens an opportunity for graduates from medical schools who have not yet established themselves in practice. These should be physically sound young men with a good knowledge of medicine and surgery, and well qualified in the specialties of hygiene and modern sanitary science. The service involves serious risks, but no true physician ever hesitated to devote his life to the duty of alleviating the ills that flesh is heir to in obedience to the call of his perilous profession.

**Census Returns.**—An abstract of the census for 1900 has just been made public. Among the many significant facts to be obtained by an analysis of the figures a few bearing on medico-social topics are noteworthy. Some on marriage show that akin to the distribution among families is the matter of marital condition. In 1900 the percentage of married among all persons fifteen years or older was 55.5; of single, 36; of widowed, almost eight per cent., and of divorced, four-tenths of one per cent. To judge from the figures the coast States are the best for marriageable women, 60 per cent. being wives against 59 per cent. in the Central West and 54 per cent. in the East. Contrariwise the Pacific coast shows the smallest per cent. of married men, 45 per cent., against a general average of 55 per cent. in the East and Middle West. Of all the States in the Union Vermont has the smallest per cent. of unmarried males over fifteen years of age, 35 per cent. Maine is not far behind with 36. The national average exceeds 40 and New York State is below it, 37.6. Of unmarried women New Mexico has less than 20 per cent., as compared with an average of 31 for the country. Massachusetts has the largest number of bachelor girls, 37 per cent., followed closely by Rhode Island, and then, strangely enough, by Virginia and Maryland. A total of 1,178,000 widowers is reported in 1900, as against a total of 2,717,000

widows. The number of divorced men, still unmarried, was 84,000 and the number of divorced women was 114,000. It is not surprising that density of population in the East is becoming one of the notable features of American life. Rhode Island has 407 persons to every square mile, and Massachusetts follows closely with 348. New York has but 152, but her per cent. of increase in population is rapidly rising, being three per cent. in 1890-1900 above that of the previous decade and five per cent. above that of 1870 to 1880. At the present time there are living in the so-called rural districts of New York State barely 27 per cent. of her population. This is far greater than the record in Rhode Island, of five per cent., or of Massachusetts with 8.5, toward which the trend is very rapid.

**Trend in Mortality Statistics.**—Among other striking facts brought into prominence by the last census it is demonstrated by exact figures from a so-called "registration area," comprising those sections of the United States which have accurate reports, that the increase in pneumonia deaths from 1890 to 1900 was five per cent., of heart disease 12 per cent., of kidney disease 44 per cent., of apoplexy 17 per cent., and of cancer 12 per cent. On the other hand, the figures show a decrease in deaths from consumption of nearly 55 per cent. and of bronchitis 26 per cent. A marked illustration of the effect of better knowledge of infantile diseases and the growing use of antitoxin is the large decrease in deaths from those causes. Thus the decrease in deaths from cholera infantum from 1890 to 1900 was 31 per cent., of diphtheria 34 per cent. and of convulsions 23 per cent. Some rather common ideas as to the prevalence of diseases in certain sections are dispelled by these figures. Consumption, supposed to be a cold climate disease, had in 1900 an average number of deaths in New York State of 194 to 100,000 population. In the same year this disease had in Vermont, a much colder State, 152 deaths to 100,000 population, and in the District of Columbia, a much warmer place, 305 deaths to 100,000 population.

**Medical Department of the Congress of Arts and Sciences at St. Louis.**—The plan and purpose of this Congress deviate so far from traditional lines that some explanation may be necessary to show how it should interest the medical profession. It is primarily a congress of scholars rather than of specialists. It is divided into 24 departments, one of the strongest of which is Medicine. Yet it is not intended to be a distinctly medical assemblage, but, as we have indicated, a congress of medical scholars. The Department of Medicine is divided into 12 sections, embracing the principal fields covered by the subject. These do not include Embryology, Anatomy, Physiology or Bacteriology,—subjects which are embraced in the department of Biology,—but which, it may be expected, will be of equal interest to medical scholars. The order of proceedings will be most easily understood if set forth in detail. The Department of Medicine will be opened on Tuesday, September 20, under the chairmanship of Dr. William Osler, with two general addresses by Dr. W. T. Councilman, of the Harvard Medical College, and Dr. Frank Billings, of the Rush Medical College. One of these speakers will review the progress of Medicine during the past century, and the other will treat its fundamental conceptions. On Wednesday morning, September 21, a section of Public Health will meet under the presidency of Dr. Walter Wyman, Surgeon-General of the U. S. Marine Hospital Service. It will be addressed by Professor W. T.

Sedgwick, of the Massachusetts Institute of Technology, and Dr. Ernst J. Lederle, formerly Commissioner of Health of New York City. Communications relating to the subject are also expected from several eminent members of the profession. A section of Otolaryngology will meet at the same time: Chairman, Dr. Glasgow, of St. Louis; principal speakers, Sir Felix Sémon, of London, Physician Extraordinary to the King, and Dr. J. Solis-Cohen, of Philadelphia.

In the afternoon a section of Preventive Medicine will meet, under the chairmanship of Dr. Mathews, President of the Kentucky Board of Health. It will be addressed by Professors Ronald Ross, of Liverpool, and Celli, of Rome. Some question has been raised against the advisability of separating these two sections. This separation is, however, of no practical importance, as all interested may equally well attend both. At the same time with Preventive Medicine, a section of Pediatrics will meet under the chairmanship of Dr. Rotch, and will be addressed by Escherich, of Vienna, Jacobi, of New York, and others. On Thursday morning, there will be meetings of sections of Pathology and Psychiatry. The chairmen of these sections are Drs. Simon Flexner and Edward Cowles. Marchand, of Leipzig, and Orth, of Berlin, accepted invitations to address the section of Pathology, but it is not certain whether both will be able to attend. Psychiatry will be treated by Ziehen, of Berlin, and Dana, of New York. In the afternoon a section of Neurology will meet, under the chairmanship of Professor L. F. Barker, of Chicago, and will be addressed by Kitasato, of Tokio, and Putnam, of Boston. It seems hardly necessary to enter with like detail into the proceedings of the remaining sections on Friday and Saturday. It will suffice to copy the subjects, chairmen and speakers from the program, as follows:

**Therapeutics and Pharmacology.**—Chairman: Dr. Hobart A. Hare, Jefferson Medical College. Speakers: Sir Lauder Brunton, F.R.S., London; Professor M. E. O. Liebreich, University of Berlin.

**Internal Medicine (Friday afternoon).**—Chairman: Professor F. C. Shattuck, Harvard University. Speakers: Professor Clifford Allbutt, F.R.S., University of Cambridge; Professor W. S. Thayer, Johns Hopkins University.

**Surgery (Friday morning).**—Chairman: Professor Carl Beck, Post-Graduate Medical School, New York. Speakers: Professor Frederic S. Dennis, Cornell Medical College, New York. (Not finally selected.)

**Gynecology (Saturday morning).**—Chairman: Professor Howard A. Kelly, Johns Hopkins University. Speakers: Dr. L. G. Richelot, Member of the Academy of Medicine, Paris, France; Professor J. C. Webster, Rush Medical College, Chicago.

**Ophthalmology (Saturday afternoon).**—Chairman: Dr. G. C. Harlan, Philadelphia, Pa. Speakers: Dr. Edward Jackson, Denver, Colo.; Dr. George M. Gould, Philadelphia, Pa.

On the general plan of the Congress, one of the two principal speakers in each section will treat of the relation of the subject to other departments of knowledge; and the other, of its present problems. Besides the principal speakers, it is expected that each section will receive several brief communications from leading members of the profession in attendance at the meetings.

It will be seen that the division into sections is one of subjects rather than of men. The chairmen and speakers will be different in different sections.



but the attendance will be the same, except in the sections holding their meetings at the same time.

It is hoped that this program will prove attractive to such leading members of the medical profession in America as may be able to visit St. Louis and take part in the proceedings of the Congress.

**Examination for Army Medical Service.**—The examination of applicants for commission in the Medical Corps of the Army will be materially modified after July 1, 1904, when the amended regulations governing the matter will go into effect. Immediate appointment of applicants after successful physical and professional examination—the latter embracing all subjects of a medical education—will be discontinued; thereafter applicants will be subjected to a preliminary examination and a final or qualifying examination with a course of instruction at the Army Medical School in Washington intervening. The preliminary examination will consist of a rigid inquiry into the physical qualifications of applicants and written examination in the following subjects: Mathematics (arithmetic, algebra and plane geometry); Geography; History (especially of the United States); Latin grammar and reading of easy Latin prose; English grammar (orthography, composition); Anatomy; Physiology; Chemistry and Physics; *Materia Medica* and Therapeutics; Normal Histology. The subjects in general education above mentioned are an essential part of the examination and cannot under any circumstances be waived. The preliminary examination will be conducted concurrently throughout the United States by boards of medical officers at most convenient points; the questions submitted to all applicants will be identical thus assuring a thoroughly competitive feature, and all papers will be criticised and graded by an Army Medical Board in Washington. Applicants who attain a general average of 80 per cent. and upwards in this examination will be employed as Contract Surgeons and ordered to the Army Medical School for instruction as candidates for admission to the Medical Corps of the Army; if, however, a greater number of applicants attain the required average than can be accommodated at the school the requisite number will be selected according to relative standing in the examination. The course of instruction at the Army Medical School will consist of lectures and practical work in subjects peculiarly appropriate to the duties which a medical officer is called upon to perform. While at this school the students will be held under military discipline, and character, habits and general deportment closely observed. The final or qualifying examination will be held at the close of the school term and will comprise the subjects taught in the school together with the following professional subjects not included in the preliminary examination: Surgery; Practice of Medicine; Diseases of Women and Children; Obstetrics; Hygiene; Bacteriology and Pathology; general aptitude will be marked from observation during the school term. A general average of 80 per cent. in this examination will be required as qualifying for appointment, and candidates attaining the highest percentages will be selected for commission to the extent of the existing vacancies in the Medical Department. Candidates who attain the requisite general average who fail to receive commissions will be given certificates of graduation at the school and will be preferred for appointment as medical officers of volunteers or for employment as contract surgeons; they will also be given opportunity to take the qualifying examination with the next succeeding class. It is not thought

that, for the present at least, the number successfully passing the preliminary examination will be greater than can be accommodated at the Army Medical School, nor that the number qualifying for appointment will exceed the number of vacancies. If, however, the class of candidates qualifying should be larger than reasonably thought, the young physicians who fail to receive commissions will not have wasted their time, as the course of instruction at the school, while in a large measure specialized to army needs, is such as will better fit them for other professional pursuits, and furthermore they will have received a fair compensation while under instruction. Admission to the preliminary examination can be had only upon invitation from the Surgeon-General of the Army, issued after formal application to the Secretary of War for permission to appear for examination. No applicant whose age exceeds thirty years will be permitted to take the examination, and the authorities at the War Department desire it distinctly understood that this limit of age will be rigidly adhered to. Hospital training and practical experience are essential requisites, and an applicant will be expected to present evidence of one year's hospital experience or its equivalent (two years) in practice. The first preliminary examination under the amended regulations above referred to will be held about August 1, 1904; those desiring to enter the same should at once communicate with the Surgeon-General of the Army, Washington, D. C., who will be pleased to furnish all possible information in regard thereto.

**Boric Acid in Food.**—The Department of Agriculture has just issued, writes the *Tribune*, a report giving the result of the experiments made last year in the influence of boric acid and borax on digestion and health. During a period of six months 12 young men submitted themselves to the observation of experts and gave a test of the effect of natural and preserved foods upon the system. The trial seems to have demonstrated that, while the human body can endure considerable quantities of boric acid in food without serious results, yet the steady absorption of the drug is unhealthful and especially likely to work injury to persons of a delicate constitution. The report shows that boric acid taken in food is eliminated from the system almost entirely by the kidneys, and that, as the maximum traces of it are found only three days after administration, the drug meanwhile is present in the circulation. It is not shown that the boric acid has any directly deleterious effect upon the kidneys, but anybody who realizes the prevalence of kidney disease under the unnatural strain upon those organs of the common mode of life, with its nervous tension and overeating, will feel it unwise to subject them unnecessarily to the work of eliminating from the body a chemical product which has no natural place there and with which they should not be called upon to deal. The department further finds that the continued use of boric acid, even in small quantities which produce no immediate palpable effects and are not noticeable to the taste, results in loss of appetite, bad feeling, fulness in the head and distress in the stomach. Persons regularly using boric acid food tend to lose weight, and analysis shows that a smaller proportion of boric acid than of natural food is digested and made available for the body's uses. The report is thoroughly conservative. It makes no sensational charges that food is poisoned by borax. It admits that articles of only occasional use may be preserved with the aid of boric acid without harm, and it con-

cedes that meats shipped raw and not kept too long may without bad results receive an external coating of preservative which excludes germs of decomposition without penetrating far beneath the surface. Nevertheless, it is emphatic in its warning against the habitual use of preserved foods, and in its demand that such foods be honestly labeled that the consumer may know what he is getting. This phase of the subject is particularly important. The consumer is now at the mercy of the producer. If he is an invalid, he may be seriously injured by borated foods which he buys, supposing them to be pure. He should have a chance to know whether he is getting natural or preserved food. If his constitution will stand the latter, well and good. If it will not, what is to him a poison should not be secretly and fraudulently administered to him. It may be that for the preservation of some articles boric acid is necessary, or at least preferable to the chemical conditions which would be developed without antiseptic properties.

The burden of proof on that point, however, rests upon the producer. He should be compelled to meet this obligation, to specify his use of boric acid and commend it to favor, and not allowed to sell goods under false pretenses. The report says: "It is undoubtedly true that no patent effects may be produced in persons of good health by the occasional use of preservatives of this kind in small quantities, but the young, the debilitated and the sick must not be forgotten, and the safe rule to follow is to exclude these preservatives from foods for general consumption." This can only be done by compelling publicity in the use of the preservatives. Otherwise, in spite of all precaution, those who would be injured will unwittingly use them to the detriment of their health.

**Crime Among the Colored Race.**—At the last annual meeting of the National Society of Charities and Correction, held last week, among the interesting papers was one on this subject. Quoting the statement that a single sentence to the chain gang, no matter how trivial the offense, usually makes the victim a criminal for life, William E. Benson, superintendent of Kowaliga Institute, Ala., made a plea for educational measures of the right sort in preventing crime among colored people. He presented a study of conditions in a small Alabama community where two-thirds are negroes which apparently flatly contradicted the old charge, that among them education and criminality go hand in hand. "In the distant rural communities of the South," said Superintendent Benson, "there are no organized charities, no institutions for rescue work, no juvenile reformatories for colored children, consequently the schools and churches must be the source of their moral uplift and inspiration. Negro boys and girls who are criminally inclined must either find their regeneration in private schools or eventually on the prison farm. Therefore the necessity for systematic preventive effort is pressing because when they once commit crime, little discrimination is made in their punishment. It is meted out according to their crime rather than their criminal record. The young and careless mischiefmaker is imprisoned in the same cell and confined to the same prison farm as the old and hardened thug. It is asserted upon good authority that a single sentence to the chain gang usually makes the victim a confirmed criminal for life. In considering the factors of preventive work, let us first determine what are the uplifting influ-

ences in communities where dependency and delinquency have been reduced to a minimum, and then introduce as fast as possible these conditions into other communities. Let us ask who are the negroes that commit crime and go to prison. Are they really the educated, self-respecting and industrious who have learned to use their hands and brains in making an honest livelihood, or, do they come from the class who are shiftless, lazy and illiterate?

"In my own community in Alabama, we maintain a good school which gives not only an English education, but seeks to train boys and girls to do intelligently and profitably the common work of life. There have been 42 arrests within the last eight years—35 negroes and seven whites. These were all cases which came within the jurisdiction of the local magistrate and were of a comparatively trivial nature. The charges were as follows: Road defaulters 3, defamation 1, disposing of mortgaged property 2, assaults to murder 17, cruelty to animals 2, bastardy 1, obtaining goods under false pretenses 1, disorderly conduct 1, arson 2, petty larceny 8, carrying concealed weapons 1, vagrancy 1, alleged assault to rape 11, manslaughter 1. In the cases of the latter two charges, the defendants were acquitted on account of lack of evidence. Only one of these arrests was committed to jail and he was never sentenced, the prosecution failing to appear. There has not been a single murder case, with the exception of an accidental killing, within the last ten years and not one of our race has ever been convicted for rape or any serious crime whatsoever within the last twenty years.

This record includes a small community two and a half miles square where nearly two-thirds of the population are negroes. Further out into the county around us, where there are no schools, we find the record of both races running the whole gamut of crime from petty larceny to murder. There have been in all 125 convictions in the county between the years 1900 to 1904, 105 negroes and twenty whites. Out of 47 convicted, 20 were sentenced to hard labor for the county for terms of two to six months and 27 to the state penitentiary for terms of from one to twenty years. Seventy misdemeanors were committed by negroes and four by whites in the same period, while 16 felonies were committed by whites and 35 by negroes. In other words, the rate of criminality among negroes, which is very high in the lighter offenses, decreases in the deeper crimes, while the rate among the whites, which is very low in the lighter offenses, increases in the deeper crimes.

#### OBITUARY.

**DR. JOHN H. DORN**, whose home for many years was at 39½ Washington Square South, New York City, died suddenly in London on Friday of heart disease. He retired from active practice eight years ago, largely on account of his health. Dr. Dorn, who was born in Johnstown, N. Y., in 1842, entered the Union Army at the outbreak of the war, and served two years with a New York regiment. He went to Albany at the conclusion of his military service, and entered the Albany Medical College, from which he was graduated in 1865. He began practising in the Fifteenth Ward in this city, and in 1875 was appointed a police surgeon. He was retired as such in 1896. For twenty-five years he was Secretary of the Lincoln Club of the Fifth Assembly District.

**DR. L. A. LOWDEN**, of Indianapolis, died June 21 at his home.



## CORRESPONDENCE.

## OUR LONDON LETTER.

LONDON, June 4.

INTERIM REPORT OF THE ROYAL COMMISSION ON TUBERCULOSIS—THE PURSUIT OF NOVELTIES IN MEDICINE—MEDICAL OFFICERS OF HEALTH—"EUGENICS"—HYGIENE IN THE HAIRDRESSER'S SHOP.

IMMEDIATELY after Koch's subversive address on human and bovine tuberculosis at the Congress held here in 1901 a Royal Commission was appointed to study the whole question. The Commissioners chosen were Sir Michael Foster, Professor of Physiology at Cambridge, Chairman; Dr. Sims Woodhead, Professor of Pathology in the same university; Dr. Sidney Martin, Professor of Pathology, University College, London; Dr. John McFadyean, Professor of Comparative Pathology in the Royal Veterinary College, and Dr. Boyce, Professor of Pathology, University College, Liverpool. The specific questions which they had to consider were the following: (1) Whether the disease in animals and man is one and the same; (2) Whether animals and man can be reciprocally infected with it; (3) Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favorable or unfavorable to such transmission. They decided that their best course would be to begin their work, not by collecting opinions, but by making experimental investigations for themselves. Their first line of inquiry was to discover the effects produced by introducing into the body of the bovine animal (calf, heifer, cow) either through the alimentary canal as food, or directly into the tissues by injection, tuberculous matter of human origin, i.e., material containing living tubercle bacilli derived from various cases of tuberculous disease in the human subject; and how far those effects resemble or differ from the effects produced by the introduction into the bovine animal under similar conditions of tuberculous matter of bovine origin, i.e., material containing living tubercle bacilli obtained from cases of tuberculosis in the cow, calf, or ox. The Commission has been at work for nearly three years, and we had begun to wonder whether it was to sit as long as the last Vaccination Commission to which at one time it seemed that the description of Theseus in Tartarus, *Sedet aeternumque sedebit*, might be applicable. The publication of an interim report on June 1 therefore came as a surprise. The Commissioners say they have been moved to make their results known in this way because they are so striking. Their experiments, details of which are reserved for a further report, have led them to the conclusion that "tubercle of human origin can give rise in the bovine animal to tuberculosis identical with ordinary bovine tuberculosis." In their experiments they made use of more than twenty different "strains" of tuberculous material of human origin and two hundred animals. They compared the effects produced by these with the effects produced by several different strains of tuberculous material of bovine origin. In the case of seven of the "strains" of human origin, the introduction of the human tuberculous material into cattle at once gave rise to acute tuberculosis, the disease in some instances being of great severity. In the case of the remaining strains, the bovine animal into which the tuberculous material was first introduced was affected to a less extent. Nevertheless, tuberculous material from the bovine animal thus affected introduced into other bovine animals and into guinea-pigs, in the case of five of these strains ultimately gave rise in the bovine animal to general tuberculosis of an intense character. The Commissioners say: "We

have very carefully compared the disease thus set up in the bovine animal by material of human origin with that set up in the animal by bovine material, and so far we have found the one, both in its broad general features, and in its finer histological details, to be identical with the other. We have so far failed to discover any character by which we could distinguish the one from the other. The result at which we have arrived seems to us to show quite clearly that it would be most unwise to frame or modify legislative measures in accordance with the view that human and bovine tubercle bacilli are specifically different from each other, and that the disease caused by the one is a wholly different thing from the disease caused by the other." Briefly put, the conclusion of the British Commission is against Koch's view that human beings are but slightly, if at all, susceptible to infection by bovine tuberculosis, and that the danger from the milk of a tuberculous cow is so small as to be practically a negligible quantity. It may be recalled that these views caused a great sensation at the Congress, as doubtless they were intended to do. As soon as Koch sat down, Lister rose and said that if the conclusions of the German investigator were correct, the means of preventing tuberculosis would be greatly simplified; but, on the other hand, it would be a very serious and grievous matter if the endeavors which were being made to provide purity of milk supply should be relaxed, and that then the conclusion should be found not altogether correct. For his own part he must frankly say that the evidence which Professor Koch had brought forward was not very satisfactory. The dairy-men were of course greatly pleased at the prospect opened up by Koch's deliverance of a relaxation of the stringent supervision of their products now enforced by law. Medical opinion however was strong enough to prevent any action in that direction being taken till conclusive evidence in support of Koch's teaching was forthcoming.

Sir Dyce Duckworth, one of the pillars of that dignified but somewhat effete institution, the London College of Physicians, has lately delivered his soul in denunciation of "the modern pursuit of novelties in medicine." He thinks physiology as now taught by specialists is too purely scientific to be of much use to practitioners, and occupies too large a space in the medical curriculum. On the other hand he complains that the study of botany is hardly reckoned within the compass of modern medical education. He rarely comes across a pupil who knows the natural order of plants or could name properly any of our common hedgerow flowers. He regards this as a lamentable decadence and a distinct loss since he has always reckoned a training in botany as one of the very best for the future medical man. In this Sir Dyce Duckworth is in direct opposition to Huxley who proposed to lighten the course of studies by throwing overboard not only botany but zoology and even materia medica which he said was unnecessary to a physician as a knowledge of cutlery to a surgeon. Duckworth has a good word to say for bleeding in suitable cases and he points to the fact that the oculist who sees what he is doing better than the physician never gave up the practice in deference to those who condemned it as an enfeebling procedure. He admits that mercury was grossly abused in the good old days, but he thinks that the calomel which our predecessors employed was a more efficient drug than "the chemically, perhaps too chemically, pure salt" used to-day. Duckworth mourns the passing of John Abernethy's famous blue pill and black draught, which have been replaced, "often inefficiently," by doses of aperient waters. He also finds comfort in that blessed word "diathesis" at which modern science is too apt to point the finger of scorn. The most mis-

chievous element in our modern system of therapeutics, however, is declared to be "a perpetual pursuit of novelties, an untiring effort to produce new remedies, the enjoining new methods of dietary, and with all this, the inevitable loss of any well-acquired principles of treatment as founded on long experience of others, or of personal experience laboriously acquired for oneself." Duckworth plaintively says that he is always meeting with perscriptions composed of many drugs of whose existence he has no knowledge, and which are in no pharmacopœias. Every week he is informed from German and American sources of some new synthetical compounds and so-called foods, generally with unpronounceable names, which he is invited to use on the strength of monstrous assertions and the raw experience of some young and imperfectly-trained physicians. It is all very sad and very bad, and unworthy of well-trained practitioners. The pity of it is "we have frivolous minds amongst us at work in therapeutics." There is of course a large amount of truth in this, but the Athenian curiosity to hear of some new thing is by no means exclusively modern. Did not old Broussais, speaking of new specifics say, *Hâtes-vous de prendre ce remède pendant qu'il guérit?* Duckworth urges strongly the value and importance of practitioners acquiring a full knowledge of the pharmacopœia, and of the art of prescribing appropriately. As an examiner he is constantly aghast at the ignorance of these subjects displayed by candidates. There are, he says, fashions in diseases as in drugs. "To-day we find weak hearts asserted to be very prevalent; lately gastric dilatation was perpetually before us; then neurasthenia; next, phimosis became of extraordinary frequency, while typhilitis and nasopharyngeal adenoid growths are heard of on all sides in society. To-morrow there will be something else." But we must be calm, and level-headed, to see all things in due proportion, to hold fast by all we have learned to see as most certain and dependable in medicine. In expressing these sentiments Duckworth declines to be regarded as an old Tory in medicine, or a pre-scientific fossil. Well, we need not call him a fossil; he is only a particularly fine specimen of British Conservatism.

Medical officers of health are not only very poorly paid, but hold their appointments for the most part from year to year and therefore at the mercy of the sanitary authorities whose servants they are. This fact goes far to nullify their usefulness to the public. If a zealous officer is impelled by his conscience to condemn houses or tenements as unhealthy, he naturally makes enemies of the owners of the property who often are members of the body which appoints him. Quite recently an able officer to an out-lying London borough, who had reported adversely on certain foods submitted to him by the inspector, was refused re-election. It happened that the seizures had been made from the premises of the chairman of the health committee, who had used his influence to supplant the doctor. Insanitary areas have been passed over by inspectors under fear of dismissal, and when the medical officer has dared to report he has been deprived of office. A notorious scandal arose in a seaside town where the mayor had concealed the fact that his two daughters and a servant were down with smallpox. Certain troubles ensued, and the local officer, having had his attention called to the matter, made his report. Within a month he was not only dismissed from his office, but this adverse vote made longer stay in the borough utterly impracticable. In another case a clever young practitioner was literally hounded out of a small South Wales district because he attributed a certain epidemic of fever to the use of water on a certain nobleman's estate, and forwarded samples together with his report to the Local Government Board. From

these facts, which could be multiplied indefinitely, it is evident that in the interest of the public health it is imperatively necessary that medical officers of health should be independent of the malice or whims of sanitary authorities which are largely composed of local tradesmen and owners of house property and should be made secure in the tenure of their office. The Incorporated Society of Medical Officers of Health is therefore taking action to secure this. The attention of Parliament is to be called to the subject and there is a good prospect of the desired reform being effected, as it has the support of Mr. Arthur Balfour, the Prime Minister, Sir Michael Hicks-Beach, the late Chancellor of the Exchequer, and Sir Walter Foster, ex-Parliamentary Secretary of the Local Government Board. In 1869 the Royal Sanitary Commission recommended fixity of tenure, but the recommendation has been allowed to remain the expression of a pious opinion.

Mr. Francis Galton whose name is well-known by his researches on finger marks and his studies of various problems of heredity, recently delivered an address on "Eugenics," which he explained to be the science which dealt with all influences that improved the inborn qualities of a race, and with those that developed these qualities. The aim of eugenics, he says, was to bring as many influences as could be reasonably employed to cause the useful classes in the community to contribute more than their proportion to the next generation. It seemed to be the tendency of high civilization to check fertility in the upper classes, through numerous causes, some of which were well known, others were inferred, and others, again, were wholly obscure. But it might be expected that types of our race would be found to exist which could be highly civilized without losing fertility, and they might even become more fertile under artificial conditions, as was the case with domestic animals. If marriages unsuitable from the eugenic point of view were banned socially, or even regarded with the unreasonable disfavor which some attached to cousin marriages, very few such unions would take place. The improvement of our stock seemed to Mr. Galton one of the highest objects we could reasonably attempt. He saw no impossibility in eugenics becoming a religious dogma among mankind, but its details must first be worked out sedulously in study. The first and main point was to secure the general intellectual acceptance of eugenics as a hopeful and most important study. In the discussion which followed Mr. Benjamin Kidd (author of *Social Evolution*) pointed out that much obscurity at present existed in sociological studies from confusing two entirely different things—namely, individual efficiency and social efficiency. Judging from what one sometimes read, many of our ardent reformers would often be willing to put us into lethal chambers if our minds and bodies did not conform to certain standards. Our methods of knowledge were as yet admittedly very imperfect. He believed that much that Mr. Galton anticipated would be realized. But he thought we must go slowly with our science of eugenics, and that we must take care, above all things, that it advanced with, and did not precede, a real science of our social evolution. Even the highest representatives of the various social sciences must realize that, in the specialized study of sociology as a whole, they were scarcely more than distinguished amateurs. Otherwise, in few other departments of study would there be so much danger of incomplete knowledge, and even of downright quackery, clothing itself with the mantle and authority of science. Mr. H. G. Wells expressed the belief that the conscious selection of the best for reproduction would be impossible, and that to propose it was to display a fundamental misunderstanding of what individuality



implied. It was in the sterilization of failures, and not in the selection of successes for breeding, that the possibility of an improvement of the human stock lay.

Dr. Collingridge, Medical Officer of the City of London, has recently grappled with a somewhat difficult problem. He proposes to establish a code of regulations to secure antisepsis in the hairdresser's shop. Shaving brushes are to be dipped in an antiseptic solution before use; the operators, or "artists" as they call themselves, are to put on a fresh apron for each customer; razors are to be sterilized and hairbrushes are to be washed after use. The hair-dressing fraternity as a class do not view these proposals with favor, and it remains to be seen whether the City Fathers are sufficiently progressive to support their health officer.

## SOCIETY PROCEEDINGS.

### AMERICAN SURGICAL ASSOCIATION.

*Twenty-fifth Annual Meeting, held at St. Louis, Mo.,  
June 14, 15 and 16, 1904.*

FIRST DAY—JUNE 14TH.

**What are the Minimum Requirements for Aseptic Surgical Operations?**—Dr. George H. Monks, of Boston, said that looseness of packing dressings in the autoclave was perhaps the most frequently neglected important factor in establishing asepsis. Unless dressings are given free space, steam sterilization is of no avail, no matter how long it may be continued,—if loose, however, fifteen minutes to a half hour at fifteen pounds will serve to kill spores as well as vegetated germs.

He suggested the introduction into operating rooms of the vacuum sweeping process, such as is used to rid sky-scrappers of their dirt. It is rapid and causes no dust. Air infection is a serious factor—more so than at present considered. Septic material should be disposed of by strictly antiseptic methods. In later years, the preparation of the skin of the operation area had undergone much simplification; he no longer considered the application of antiseptics to this part desirable or advantageous—simple scrubbing with soap and water followed by 70 per cent. alcohol serving the purpose better than prolonged soaking with antiseptics. This percentage of alcohol kills germs much more rapidly than any other. Gloves should always be worn by the operator. Ten minutes boiling of instruments is sufficient, but here, as in the case of the autoclave, unless the heat be allowed to come in actual contact with the germ-contaminated surface, the effort at sterilization is vain. To this end, therefore, it is necessary to unlock and take apart every instrument which is boiled. Caps and masks are, in the author's opinion, most important adjuncts. He showed a form of the latter used at Vienna and stated that it was probably the best of its kind. He advocated the free use of saline solution as a substitute for more irritating irrigations.

Dr. A. J. Ochsner, of Chicago, spoke of the need of a simpler direct system. Above all, he said, the chief must be uniform under all conditions. Changes must not be haphazard, but must in all details be governed by a spirit of reasonableness. Receiving credit for all successes, the chief must be responsible for all failures. Successful asepsis depends largely on patient and continued scrubbing with soap and water. The night before the hands of all who are to take part in operating are thoroughly scrubbed. As a rule, irrigation of the wound is

avoided at the Augustana Hospital. As to catgut, he has settled upon a form of iodoformized gut that has worked very satisfactorily. Careful observations at this institution led him long ago to conclude that air infection could be discounted to a very large degree; contact infection being by all odds the most common form of wound soiling. The hands are in most cases the agents of infection.

**Some Studies in Asepsis.**—Dr. Charles Harrington, of Boston, said that in an average operating room one hundred and twenty colonies to the square inch might be expected to deposit in an hour. It has often been said that sweat is infection. He has tried again and again to prove this, but has failed. It is apparently sterile. Saliva, on the contrary, is a most potent cause and source of infection. This is expelled chiefly by persons uttering the consonants d, k, p and t. Streptococci and staphylococci are the germs most frequently expelled in the saliva. As many as 4,375 having been counted in a single droplet of expelled saliva.

**Fractional Sterilization.**—For culture medium preparation this process is necessary, but for pathogenic sterilization it is useless. All such spores are killed in ten minutes if absolute contact of steam to exposed materials is ensured in the autoclave. Sporulation fails in the absence of suitable temperature and of water, therefore, if the fractional method were necessary, a special technic between the periods of exposure to heat would be necessary.

**Hand Sterilization.**—Potassium permanganate-oxalic acid method has long outlived its usefulness. It simply causes an oxidation of organic products, but that this is absolutely valueless may well be shown both by the fact that the process may be repeated almost indefinitely—the degree of blackening barely diminishing—as well as by actual bacteriological examination of the hands. The black coating, formerly considered so valuable an indicator of work well done, has been positively shown to be a most effectual bar to the accomplishment of sterilization. The author detailed his experiments with all the well-known solutions and showed how faulty is their action and how erroneous is the judgment of him who places faith in them. The free mercury ions are the factors of first importance in killing germs and their spores. Hydrochloric acid will increase the number and activity of these ions, but it is too irritating to use in practice.

Dr. De Forest Willard said that the value to the general surgeon of the laboratory findings, presented by Dr. Harrington, could not be adequately estimated. He agreed with Dr. Ochsner in that permanent assistants are a desideratum, but pointed out the fact that such a plan, if universally adopted, would seriously curtail the educational usefulness of all hospitals. The young generation must be taught, and this can be done only by a rotation of service. Operating rooms should be places near the roof; we are coming back to the old idea of Lister who placed such store on the importance of air infection.

Dr. C. B. Nancrede, of Ann Arbor, Mich., said that he had watched the development of asepsis for thirty-six years. Old ideas and old experiments were repeated again and again. The fact that inhibition of a germ is most difficult to distinguish from its death has led to many errors. Tissue resistance, that immeasurable something, is likewise a most potent factor. He places a five-minute sand-glass, commonly used by housewives to boil eggs, before each assistant and nurse, so as to ensure adequate scrubbing. The scrub until "hard boiled"

is reached. Last winter he caused 213 cultures to be taken from the hands of his operating staff with a result that seven grew. This showed 97 per cent. of sterility—this was reached by Weir's method of soda and chloride of lime.

**A Chemical Study of Forty-one Operated Cases of Ulcer of the Duodenum.**—Dr. W. J. Mayo and Dr. Christopher Graham, of Rochester, Minn., presented this paper. Dr. Mayo said that the striking fact elicited by this study was the proof it afforded of the frequency of the coexistence of duodenal and gastric ulcer. In 53½ per cent. of his patients the stomach was involved. Moynihan reports 23 per cent. Most duodenal ulcers are of the cicatricial type, as evidenced by the presence of broad adhesions walling off areas of chronic perforation. Duodenal ulcer is much more common than generally supposed. Its development is favored by the position of the organ as well as by other factors. The ulcer occurs, as a rule, within the first two inches of the gut. So frequent is the lesion as a complicating factor in gastric ulcer and in gall-bladder disease that the author recommends the use of an incision situated well to the right of the median line so that the duodenum, which is involved in at least one-half of such cases, may be explored and, if necessary, receive treatment.

**Posterior Gastro-Enterostomy the Operation of Choice.**—The anterior operation has been superseded at Rochester by the somewhat more prolonged but more satisfactory posterior. Even if this operation be employed, there is still a marked disposition to closure of the opening as a result of the increased pyloric lumen. Food is forced through the pylorus by the muscular action of the stomach. This mechanically dilates the part. Add to this the shrinkage of the inflamed walls, which begins as soon as they are given relative rest by the establishment of the artificial opening, and it is easy to see that it cannot be long, in most cases, before the pyloric opening which, at the time of the operation, may have been tightly sealed, becomes patent.

**Classification.**—Duodenal ulcers may be grouped under five heads: (1) Those occurring in conjunction with gastric ulcer; (2) with hepatic lesions, particularly gall-stone; (3) a large class in which acute perforation may take place; (4) one in which hemorrhage may supervene and (5) a small class characterized by a freedom from hepatic or gastric involvement.

Dr. E. Willis Andrews, of Chicago, cited a case in which he had employed the McGraw ligature to create a gastro-enterostomy. The patient died a year after the operation and the contraction of the opening proved the truth of Dr. Mayo's observations.

Dr. J. B. Murphy, of Chicago, said that Dr. Mayo had convincingly shown the frequency of duodenal ulcer. It produced, unlike its proto-type in the stomach, either absolutely no symptoms or, at best, the most vague evidence of its existence. The majority would for a long time have to be diagnosed upon the operating table.

Dr. Mayo, in closing, said that the so-called Robson ulcer of the stomach and of the duodenum were similar lesions and were too often confounded with gall-bladder disease. Eliminating the medical ulcers, duodenal ulceration is probably as common as gastric. Because of the difficulty of establishing a gastro-enterostomy which shall remain permanently patent and because of the danger of leaving a cicatrized base for possible future malignant degenera-

tion, excision of the ulcer, rather than gastro-enterostomy, secured the operation of choice.

**Seven Cases of Complete Removal of the Shaft of the Tibia, with Restoration of the Bone.**—Dr. George Ben Johnston, of Richmond, Va., said that the striking factor elicited by a study of these cases was the differing degree of the virulence of the infection. He exhibited a complete series of photographs and radiograms which illustrated most convincingly what can be done by patience and skill in this department of conservative surgery. His illustrations showed how easy it became, in skilled hands, to actually mold the new bone to whatsoever form desired.

Dr. Willard said that under the reproachful term "rheumatism" most of the unfortunate children suffering from osteomyelitis were condemned to suffer the agonies of tissue destruction until it was too late to save the bone. Operation should be done within the first forty-eight hours.

Dr. A. J. Ochsner advanced the proposition that the dead bone, which is usually removed from these, will in a large proportion of cases regenerate if kept clean and left *in situ*. He recalled one operation, four years ago, in which the fragment, consisting of almost the entire tibia, had grown fast and had given no trouble to date. He, therefore, advocated free incisions in these cases without bone resection. If the dead part does not grow fast it at least serves for a splint.

#### SECOND DAY—JUNE 15TH.

**Causes of Death after Abdominal Section.**—Dr. Maurice H. Richardson, of Boston, said that to every surgeon of wide experience came occasionally but surely rare and unavoidable calamities which terminated in unexpected, unlooked-for death.

**Pulmonary Embolism.**—This condition and its evil associate, femoral thrombosis, are as inexplicable as they are to be dreaded. Neither has any bearing on wound infection, in fact, it is well known that each is more apt to occur in the course of an uneventful convalescence than otherwise. Have phlebitis and pulmonic embolism a common origin? Each, so far as can be determined at any rate, is aseptic, and each occurs typically after the most successful operations. It is possible that changes in the blood occur which are not evidenced by known methods of examining this tissue. But why should thrombosis of the left femoral occur so frequently after operations on the right side? That the two conditions are associated with each other and with some form of anemia is to be suspected, at least from the frequency of their occurrence in patients who have suffered prolonged hemorrhage.

**Suppression of Urine.**—This postoperative complication in patients whose kidneys are normal is not common and is rarely fatal; nevertheless it does occur with sufficient frequency to justify comment on our inability to prognosticate or to treat it. When it proves fatal it is probably a certain sign of pre-existing renal disease which had been overlooked by the surgeon. Ether is usually not responsible.

**Prolonged Capillary Hemorrhage.**—This appalling sequel is most frequently seen after operations on the gall-bladder or its tracts. Blood-stained dressings persisting for some days beyond the usual has come to the author to suggest with painful certainty—death. In closing he said, that it was due the public to remind them that there yet lurked definite and uncontrollable dangers in the course of every operation of any import—as yet unhappily far be-



yond the reach or even the recognition of the surgeon.

Dr. L. S. McMurtry, of Louisville, spoke of the need of eliminating the baneful term "death from anesthetic," since in many cases autopsy, properly conducted, would show the definite cause of death to have been pulmonic embolism or some similar definite lesion. The laity should be taught that all operations are essentially not simple and uniformly successful. This has been the creed they have been taught and the altar at which they have been brought to worship in the recent years of marvelous surgical predominance and success. More time taken in the preparation of all except emergency cases would save many lives.

Dr. Robert Abbe, of New York, said that Keen had long ago called attention to the fact that the frequency of phlebitis on the left side was to be explained by the anatomical relation of the left vein. Most cases of left-sided phlebitis are mechanical in origin—representing a local stagnation of the venous current.

Dr. C. B. Nancrede said that he did not share with Dr. Richardson his dread of capillary hemorrhage. One case, he recalled, was operated on for jaundice and bled in this manner for five weeks without fatal termination.

Dr. W. J. Mayo said that in his experience phlebitis occurred in two per cent. of abdominal cases. Many are so slight as not to give any symptoms. One per cent. present the typical symptoms, the rest have only a little stiffness and pain. He had recently seen two cases of undoubted pulmonary hemorrhage recover and he had made the interesting observation that in each there was undoubted cardiac disease. A good-sized leak or a sudden break in compensation saves the heart until a readjustment of the circulation can be established. Each of the patients, he cited, had phlebitis subsequently.

**Papillary Tumors of the Ovary.**—Professor Samuel Pozzi, of Paris, France, said that a great number of women had been sacrificed to the popular, widespread belief that these forms of new growths are invariably to be considered malignant. It is true that if left alone they are very apt ultimately to undergo malignant degeneration, but this can occur only as a result of faulty treatment. The characteristic evidences of these cystopapillomatous growths is ascites and evidence of vegetations spread upon the omentum and general peritoneum. When, upon abdominal section, such vegetations are discovered and are shown to be the grafts of an ovarian papilocystoma, operation, far from being negated, is most urgently indicated. The author cited a patient upon whom he had operated in 1878, who lived without recurrence for twenty years. There is, pathologically, a very wide distinction between the grafting process which these tumors undergo and the well-known metastatic distribution of carcinomata and sarcomata by the lymphatics and the blood channels. Furthermore, and as furthering the plea for removal of these growths, even if apparently malignant, it is a well-established fact that malignancy, when it does subvene in these growths, usually for long periods, remains so strictly localized as to permit of its entire removal. Gross evidence of malignancy should not, therefore, contraindicate a hopeful postoperative prognosis. The patient should be safeguarded, if necessary, by repeated laparotomies, the need for these being, as a rule, determined by returning ascites.

The adnexa should be removed on both sides in

women of over forty years of age even if one side alone be involved. Hysterectomy is immediately indicated if there be the least suspicion of malignancy. Drainage is unnecessary if ascites be absent, and if present, it is the author's custom to employ a glass tube with gauze for a few days only. It does no harm and often seems to act as a deterrent of malignant development.

Dr. Dudley P. Allen, of Cleveland, said that the danger of malignancy in these cases had been grossly overestimated and that every particle of available vegetation should be removed. He warmly congratulated Professor Pozzi on his brilliant paper and thanked him for bringing before the association with such force and earnestness a topic of so wide interest and importance. He cited a case which in all details supported what Professor Pozzi had said—auto-infection by medullary carcinoma having been induced from a papillomatous cyst.

Dr. J. E. Moore, of Minneapolis, said he had been favorably impressed by Professor Pozzi's paper. The question of the malignancy of papillomatous ovarian cysts had long been a subject of open discussion and he was glad to feel that it had at length been closed by so able a clinician.

Dr. Wm. B. Coley, of New York, reported a case of papillomatous cystoma which had been mistaken for a hernia. To his knowledge the patient, after resection, lived for seven years in perfect health.

Dr. A. J. Ochsner considered Professor Pozzi's conclusions to be epoch-making. Very careful distinction should be made between metastasis and the grafting of a papilloma. He considered the removal of the uterus a desideratum, because of the danger of broad ligament involvement.

Dr. L. L. McArthur, of Chicago, said that he had often found tuberculous germs in the apices of the papillomata.

Professor Pozzi, in closing, said that his remarks had been confined strictly to papilocystomata of the uterus and ovaries; they did not apply to such growths of the bladder and rectum. As to hysterectomy, he believed that every woman should be given an opportunity to bear children and that surgeons should be as conservative as possible.

He cited the case of a woman in whom he had resected all but a small portion of one ovary who had had her child and in whom a secondary operation was done shortly after delivery. As to the cause of the condition, whether tuberculous, as had been suggested by Dr. McArthur, or due to chronic irritation, such as is caused by chronic metritis, he was unable to say anything definite.

**Anchylolysis treated by Arthroplasty.**—Dr. J. B. Murphy, of Chicago, presented the case of a young man in whom he had succeeded in reproducing a well functioning hip-joint. He exhibited photographs and radiograms of the new joint which showed the result very clearly. He said that there were two important questions to be answered, viz., "Can bony anchylolysis be prevented?" "Can a normal joint be reproduced?" Three types of anchylolysis have to be considered, the peri-articular, the capsular and the bony. Hygromata, as is well known, are often produced in the case of tumors and others who characteristically suffer from enlarged bursæ, the result of chronic irritation. The aim of him who would remake a joint should be to produce such irritation upon such tissues. Experimentation had shown that hygromata can best be produced by subjecting fatty tissue to constant pressure. This principle has a great future in the treatment of certain



chronic joint affections; it seems specially suited to cases of adherent patellæ, in the elbow and in the hips.

(To Be Continued.)

### AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-ninth Annual Meeting, held in Boston, Mass.,

May 24, 25 and 26, 1904.

(Continued from Page 1101.)

SECOND DAY—MAY 25TH.

#### Primary Repair of Lacerations of the Cervix Uteri.

—There was a symposium on this subject. Dr. Edward P. Davis, of Philadelphia, read the first paper. Experience in 53 cases had led to the following conclusions: When the patient was not infected and when the tissues had not been subjected to sufficient violence to threaten necrosis and laceration of the cervix, one-half inch or more in extent was present, primary closure had been followed in his experience with good results. These cases usually occurred in primiparæ where resistance in the soft part occasioned sufficient delay and fatigue to require delivery by forceps. They were also seen in cases of premature labor, whether spontaneous or induced, where the cervix was not physiologically softened for perfect dilatation. They were also found in patients having spontaneous labor with very strong expulsive efforts, and with large children. Naturally those cases in which the mechanism of labor was abnormal through posterior rotation of the occiput, face presentation or breech presentation, predisposed to laceration of the cervix. While primary closure of laceration of the cervix was indicated in the conditions just described, certain conditions were necessary for its successful performance. These conditions were outlined. Dr. Davis then described the technic of the operation, and the after-treatment. The number of cases under observation was 53. In these, good union occurred in 45; fair union in 6; no union in 7, while infection developed in none. In 84.9 per cent. the operation was successful; in 11.3 per cent. it was moderately successful, and in 3.8 per cent. the operation failed. The percentage of infection was *nil*. He pointed out the objections which were commonly urged against this operation, after which he said that in appropriate cases in his experience immediate closure of the cervix had given no inconvenience to the mother, and had been followed by excellent results. The operation was not advised for those who do not practice obstetrics with good surgical technic, and who were not competent to operate on the genital tract.

**The Practice of Cervix Suture on the Fifth Day After Delivery.**—Dr. Robert L. Dickinson, of Brooklyn, said that no complicated or considerable perineal injury should be repaired at the close of labor, but three to five days later. This had an important bearing on lacerations of the cervix, as this was the ideal time to restore such injuries. The huge edema, the bruising, and the uncouth distortion of the vaginal portion just after delivery rendered identification of the parts that should be brought together impossible, and attempt to accurately coapt, guesswork. Therefore, whenever possible, the cervix should be sewed on the fifth day. The frozen sections of the puerperal weeks showed that then, and not until then, shrinkage had occurred. Bleeding no longer obscured the difference between flayed surface and torn structure. Then only were the surroundings of the operation, in the way of illumination, table, time, and a rested personnel possible. This applied particularly to private practice. The conditions under which the cervix should be repaired at the close of labor were: (1) Bleeding from a firmly contracted

uterus, notwithstanding ergot, heat, holding, and tampon. Here there was a spurting artery. (2) When the cervix injuries were clean cuts, of known location, as after Dührssen incisions. (3) When, in the immediate repair of a moderate perineal injury, a tear of the cervix is found. The conditions under which the cervix should be repaired several days after labor were: (a) Exhaustion of patient, or surroundings and conditions which precluded careful work. (b) Extensive injuries, except when these persistently bled or had been cut by the surgeon. (c) When accompanied by complicated or considerable injuries to the pelvic floor. The author drew attention further to the alterations produced by granulation and contraction in these wounds when left alone, so that the scarred, swollen, everted, or cystic cervix months or years after injury gave uncertain indications for accurate restoration to the original condition.

**General Considerations of Laceration of the Cervix Uteri.**—Dr. J. M. Baldy, of Philadelphia, stated that as a matter of clinical fact, let the cervix uteri be torn deeply and if the parts were preserved from infection, the greater part of the tear would heal spontaneously, and the rest of it would remain perfectly healthy, as much so as would the lobe of the ear which had been torn through by the weight and drag of our great-grandmother's earrings. The lips would remain uninfiltated of normal size and thickness, with no eversions and no erosion of the lining mucous membrane. In such a case there would be no untoward symptoms and no bad effects whatever. There was a tendency among obstetricians to repair these lacerations primarily. The objections to such practice were manifold, and he admitted a prejudice against it. These objections were pointed out. Whatever might be ideal surgery under the exigencies of actual practice, the treatment for recent lacerations of the cervix remained, and he believed would remain, rigid local cleanliness, excepting where there was sufficient hemorrhage to demand a ligature. Where non-infection could be insured, and where the torn lips were not unnecessarily disturbed, by the careless use of the nozzle of a syringe, spontaneous healing of these lacerations might be expected to a greater or less degree, and what tear remained, when nature was through with her work, would be of a healthy character, would give no future trouble, and would need no surgical interference. The symptoms of chronic lacerations of the cervix uteri were essentially local in their production and remained so in their manifestations. He had no sympathy with the views which attributed reflex symptoms to these lesions. In uncomplicated cases, where there simply existed a laceration of the cervix uteri, with everted and eroded lips, producing a constant leucorrhea and a feeling of weight and uneasiness in the pelvis and about the rectum, these so-called reflex symptoms did not exist. There was one belief prevalent which would warrant, nay demand, a repair of every lacerated cervix—the belief that lacerations of the cervix produced carcinoma. In this belief he took no part, and no one had to his knowledge as yet produced a single scientific fact which would uphold such a theory. In twenty years' work, he had not seen a single case of cancer develop in a laceration of the cervix which he had refused to repair.

**Intrapelvic Hematoma.**—Dr. J. Whitridge Williams, of Baltimore, reported a case of intrapelvic hematoma following labor, and made some remarks on the treatment of incomplete rupture of the uterus.

**Presidential Address.**—Dr. Edward Reynolds, of Boston, in his Presidential Address, said, among other things, that the Society owed its preeminence along its chosen line less to the words than to the prolonged and daily labor of the eminent men who had composed it in

the past, and must owe its future to the lifework of the equally able men who were to fill its membership in the coming years. He said the use of the printed abstract published beforehand had of late become increasingly prominent in many societies, and in the British Medical Association this use of the abstract had reached its highest terms. It was seldom wise to adopt wholesale the regulations of other organizations. It was usually better to let changes follow a more gradual and natural evolution under the needs of the individual assembly, but the methods of the English association were worth a passing consideration. A Fellow of the British Medical Association who desired to present a paper at one of its meetings, must put it in the hands of the Secretary complete and in the form in which he desired its publication a number of weeks before the meeting, and the communication might be of any length he chose. A paid Secretary, a qualified and experienced medical author, then abstracted each paper in the form and length which he considered best fitted for its public delivery. This official then read the abstracts to the Society as they were called from the program. Such a reading inaugurated each discussion, and the member whose ideas had been thus succinctly set forth before his associates took part in the discussion and closed it. The ideas of individual members by this method were better and more intelligently presented to the Society than if they had read their complete papers. In this way the time of the Society was economized, full debate was encouraged, and the members had the advantage of publishing to the world papers in which their points were set forth at the fullest length and without time limitation.

Dr. Reynolds said that such a method was perhaps too far advanced for our present needs or possibilities, yet it had many advantages, and it seemed to him worth calling attention to as one toward which the Society might well advance. Would it not be wise to give this method, or a modification of it, a year's trial? In conclusion, he expressed his thanks for the kindly personal feeling which had actuated the Fellows when they elected him President, for which, and for the many personal pleasures which he had enjoyed in the Society, he was, and would always gladly remain, their willing debtor.

#### SYMPOSIUM ON INJURIES TO THE PERINEUM.

**The Preventive Treatment of Pelvic Floor Lacerations.**—Dr. J. Clifton Edgar, of New York, read the first paper. The most important part of the management of the second stage of labor was the prevention of pelvic floor lacerations, lacerations of the fourchette in primiparæ, and superficial tears about the vulvar orifice in both primipara and multipara often occurred, were often unavoidable, and usually readily healed with simple asepsis. Deep lacerations were avoidable in normal, ordinary cases of labor. The factors which tended directly or indirectly to produce pelvic floor lacerations were numerous, but for convenience he arranged these in three major classes. These were concisely stated as: (1) Too rapid expulsion of the fetus, so that tearing instead of stretching resulted. (2) Relative disproportion in size between the presenting part and the parturient outlet. (3) A faulty mechanism of labor, whereby the larger circumference of the head and shoulders than necessary passed through the parturient outlet. From an extended clinical experience, he could speak most enthusiastically of the preliminary digital stretching of the vulvar outlet in primiparæ, and especially in elderly primiparæ, as a prophylactic measure in perineal protection.

The author then discussed episiotomy, head delivery, and cleidotomy. Regarding shoulder delivery, the author firmly believed from years of careful clinical observation that the posterior shoulder was responsible

for many instances of deep pelvic floor laceration. Furthermore, that moderate ruptures caused by the passage of the head were often increased and rendered serious by the subsequent passage of the posterior shoulder. He had been most successful with the following method of shoulder delivery, and either the lateral or dorsal posture of the patient could be used at will. This method was not new: (1) The delivery of the shoulders was delayed, if possible, until nearly complete rotation of the bisacromial diameter had taken place. (2) The fetal head was taken in the hand and gently raised or pushed, so as to bring the anterior shoulder well up behind the symphysis, thus giving the cervico-acromial diameter of the fetus at the outlet instead of the bisacromial. (3) The posterior shoulder was now allowed to pass out spontaneously and whenever possible manual extraction should be avoided, as this increased the risk of perineal rupture. (4) During the detention of the anterior shoulder behind the symphysis, the fetal hand of the opposite arm lying across the fetal chest would usually soon appear in the vulva. He had found that delivery might be safely assisted by slowly flexing this forearm and arm out through the vulva and thus delivering the posterior shoulder by slight traction on the posterior arm. (5) Should the foregoing be impracticable and delay in the expulsion of the posterior shoulder occur, he had found gentle traction upon the head, the fingers encircling the neck, to be preferable to traction with a finger in the axilla. (6) Should there be delay in the delivery of the anterior shoulder, after expulsion of the posterior, it was best remedied by making traction directly downward, with the hands placed on the sides of the head, taking care not to make too great pressure on the perineum.

**Immediate Repair of Lacerations of the Perineum, with Special Reference to Placing the Sutures Before the Lacerations Occur.**—Dr. Laphorne Smith, of Montreal, spoke of the importance of closing up even small tears of the perineum, so as not to leave raw surfaces for septic absorption. It was important to close large tears so as to retain the function of the pelvic muscles. The best time to put in these stitches was just before the head pressed on the perineum, while the patient was anesthetized, and before the parts had lost their relative positions. With the left finger in the vagina and the thumb in the rectum, a large perineum needle on a handle was passed just under the vagina, threaded with silkworm gut; the two or three stitches hung loosely in a Pean forceps until the placenta had been delivered, when they were quickly tied, bringing the parts exactly together as they were before the tear.

**Immediate Repair of Injuries of the Pelvic Floor.**—Dr. Henry C. Coe, of New York, said that he had selected this topic in order to emphasize the fact that by careful attention to puerperal lesions at the time of their occurrence the patient could be spared much future trouble. He assumed that it was the usual practice of modern accoucheurs to repair injuries to the pelvic floor at once, but it was one thing to suture visible tears and another to repair deeper lesions. Even when perfect union of the lacerations was obtained, the occurrence of prolapsus, cystocele and rectocele months afterward proved that there had been some fault in the technic. The fact of the separation of the fascia and levatores ani muscles must be recognized as well as the superficial tear, especially after difficult instrumental deliveries. An illustrative case from the writer's practice was cited. The tendency of the accoucheur after a tedious instrumental case, in which both physician and patient were exhausted, was to spend as little time as possible in repairing lesions of the soft parts, trusting to aseptic technic to insure perfect healing. The writer was firmly of



the opinion that it paid to do the work thoroughly at the time, unless the patient's condition was such as to render delay advisable. He had had such good results from immediate operations that the intermediate did not appeal to him. In conclusion, he alluded to the fact that the modern accoucheur must be a surgeon as well as an obstetrician. It was expected of him to leave the patient in as good condition as he found her, otherwise he properly laid himself open to criticism.

#### Uniformity in Pelvic and Cranial Measurements.—

Dr. A. F. A. King, of Washington, D. C., read a paper on this subject, in which he reached the following conclusions: (1) That at present the measurements of the normal pelvis and fetal head are indefinite and unsettled, and must continue so to be so long as they are determined by our present methods of mensuration. (2) The chief purpose in obtaining the normal dimensions of these structures being for teaching and learning the normal mechanism of labor, it is proposed to adopt an ideal or hypothetical head and pelvis, upon the dimensions of which all authorities may agree. (3) In the adoption of such ideal structures, it is unnecessary and undesirable to define any measurement with exact precision—no fraction smaller than one-fourth of an inch, or half a centimeter (in the metric system) being required. (4) Race variation forms no real obstacle to the proposed plan, and other apparent difficulties can be overcome. Finally, should the proposition meet with approval, it is suggested that this Society take the initiative in bringing the matter in proper form before some forthcoming international medical congress for general adoption. Accordingly, a committee was appointed by the President to consider the matter of uniformity in pelvic and cranial measurements, and report at the next annual meeting.

#### SYMPOSIUM ON NON-OPERATIVE LOCAL TREATMENT IN GYNECOLOGY.

Dr. Willis E. Ford, of Utica, N. Y., in reading the first paper on this subject, said that no one would deny that greater good had come from surgical treatment of diseases peculiar to women than was ever dreamed of by the early gynecologists who did not operate. No comparison of results could be made. He did not think it was true, however, that the specialty ought to become purely surgical. Pathology learned by pelvic and abdominal surgery ought to be clearer and better than was ever discovered post mortem. It was fair to assume that men who did this work had a better idea of the natural history, progress, and dangers of these diseases than those who did not operate; and that, therefore, the early treatment ought to be in the hands of men who were also doing surgical work. The nervous habit could not be cured by surgical procedure. What was commonly called neurasthenia was not a disease, but an established habit, possible only to those who had from birth an unstable or weak nervous constitution. Before the mental symptoms began was the time to prevent neurasthenics from becoming permanent invalids. That the nervous habit could not be cured by surgery had been proven by the fact that the removal of diseased ovaries, and such like operations on epileptic women, had not cured the epilepsy or neurasthenia. The argument, therefore, was that in those ailments that tended to disturb the emotions, especially those of the reproductive organs of men or women, the serious thing was not the pain experienced, but the permanent invalidism which was brought about by the protracted local sensations that in time disturbed the mental equilibrium and brought about the invalid habit. These local irritations ought to be treated by skilled gynecologists, and not allowed to develop either the mental or physical ailments which were so common a result. These arguments were enough to make

the profession to revive its interest in non-operative procedures. Recent displacements, especially in young people, and acute infections were mentioned as demanding non-surgical care early, if one wished to avoid the more serious ailments, and especially the most serious of all, the mental disorder called neurasthenia.

**The Value of Non-operative Local Treatment in Pelvic Disorders.**—Dr. Walter P. Manton, of Detroit, Mich., said that the ignorance of proper methods, together with the fascinations of operative measures, had brought the local treatment of pelvic disease into disrepute. Three of the factors, which among others at the present time were largely responsible for the neglect of medical gynecology, were: (1) The average physician's lack of knowledge in the accurate diagnosis and local treatment of pelvic disease. (2) The allurements and fascinations of surgery, and (3) competition in the field of practice. While it was true that no amount of instruction could impart a *tactus eruditus*, still anyone could acquire a knowledge of the primary principles underlying the correct interpretation of gynecic ailments, if opportunity was offered for the practical examination of patients under competent direction. In ignoring the benefits to be derived from medicine, he was convinced that surgery had gone too far and that it had overshot the mark, but that the present tendency to operative measures in all conditions affecting the pelvic organs could not be ascribed so much to the good which surgery, rightly directed, was capable of accomplishing as to other elements which had entered into the case was also evident. In the best of hands the results from local treatment in pelvic diseases were frequently slow in manifesting themselves, and discouragements were often met with, but in suitable cases persistent effort would ultimately attain the desired end. The objects of local treatment were the relief of pain and irritation, often of a reflex nature; the allaying of congestion and inflammation; the absorption of the products of inflammation, and the reposition of displaced organs. In the regulation of the uterine functions, in congestions and mild inflammations of that organ and surrounding parts, and in displacements of the uterus, with and without adhesions, the application of proper local treatment was of signal value; while in prolapse of the tubes and ovaries, even in the presence of extensive adhesions, but without ascertainable morbid changes in the organs themselves, vaginal tamponade offered the simplest and most efficient means of reposition and cure.

**Treatment Preparatory to Operation.**—Dr. Henry C. Coe, of New York, introduced his remarks with the statement that while his early training had led him to believe that such treatment was practically indispensable in cases of so-called "cellulitis," subsequent experience had convinced him that his notion was not in accordance with pathology or common sense. He had expressed skepticism in this subject as long ago as 1886, when he read a paper on the "Exaggerated Importance of Minor Pelvic Inflammation," and subsequent experience had only served to confirm his opinion that old pelvic exudates and adhesions were not *per se* a contraindication to operations on the uterus. Modern aseptic technic was a sufficient safeguard against danger from this source. The reader contrasted the old practice of keeping a patient in a hospital for several months, with the preparatory treatment between each minor operation, with the present plan of performing combined operation at one séance, and sending out in three or four weeks. He questioned the actual value of the hot vaginal douche, local applications to the vaginal fornix, treatment of the ectopic cervix, etc., previous to trachelorhaphy, since the diseased tissue would all be removed at once by amputation. At the same time, he admitted the



remarkable results often observed as regards the absorption of extensive pelvic exudates. Acute and subacute inflammations in and around the adnexa formed the real contraindication to operation, and doubtless surgeons were not always as careful as those of the former more conservative generation in selecting their cases. Competition and the rush of modern life were responsible for some ill-advised operations, minor, as well as major. In regard to major operations, the author thought that (excluding pus cases) general preparatory treatment of the patient was rather more important than local. He believed, however, that the admirable results obtained by the pioneers in the treatment of vesicovaginal fistulae were due to careful preparatory treatment, such as the divisions of cicatrices, stretching of the vagina, etc. Fortunately we were seldom called upon to handle such complicated cases as those described by Sims, Emmet, and Bozeman. With all our improvements in technic, we had not yet outgrown all the wisdom of our old teachers.

**The Value of Post-operative Local Treatment.**—Dr. J. Riddle Goffe, of New York, said the experience of all observers was that local treatment relieved congestion, pain and discomfort, inaugurated, hastened and accomplished the absorption of edema, plastic exudate, adhesions, and pseudohypertrophy. If it would relieve these conditions, how much more certainly would it prevent them? It had been found serviceable in preventing the deposit of plastic exudate and the reformation of adhesions in cases in which these were present at the time of operation. It was especially valuable in cases subjected to vaginal section for the relief of sterility. The author reported several instructive cases to substantiate the points made in his paper.

**The Implantation of the Human Ovum in the Uterus.**—Dr. Chas. Sedgwick Minot, of Boston, discussed this subject by request. He stated that the human ovum produced upon its exterior during its earliest stages of development a thick layer of cells, the trophoblast. The function of the trophoblast was to corrode away a portion of the mucous membrane of the uterus, making a cavity in which the ovum lodged itself. The trophoblast thereupon underwent a hypertrophic degeneration, such as to produce a series of irregular spaces, which persisted and became the intervillous spaces of the placenta. Papillary outgrowths of the chorionic mesoderm meanwhile penetrated the trophoblast, initiating the formation of the chorionic villi. The trophoblastic cells over each mesodermic outgrowth persisted in two layers, the inner cellular, and the outer syncytial. These two layers represented the first stage of the villus ectoderm. Similar observations had been made upon primates, and were compared with those upon the human subject. He compared briefly the method of implantation in man with that in other animals, to show that the trophoblast was of general occurrence, and that by destroying uterine tissues it inaugurated the formation of the true chorionic placenta.

**Bathing During Menstrual Period.**—Dr. J. Clifton Edgar, of New York, said that in the consideration of this subject several questions suggested themselves, namely (1) the advisability of bathing of any description during the menstrual period, and if at all, to what extent; (2) the use of the bath in dysmenorrhea; (3) the use of Nauheim or other chemical baths or hydropathic procedures; (4) the risk of infection of the endometrium in intramenstrual tub-bathing; (5) the influence of modern athletics on women, lessening the risk, if any, of intramenstrual bathing. These questions were submitted to the members of the Society, from whom he had received 122 acknowledgments. From the replies received, and the literature on the subject, he drew the fol-

lowing conclusions: (1) All forms of bathing during the menstrual period are largely a matter of habit, and usually can be acquired by cautious and gentle progression, but not for every woman does this hold good, and surf bathing, where the body surface remains chilled for some time, should always be excepted. (2) A daily tepid sponge bath (85° to 92° F.) during the menstrual period is not only a harmless proceeding, but is demanded by the rules of hygiene. (3) In the majority of, if not all, women, tepid (85° to 92° F.) sponge bathing after the establishment of the menstrual flow, namely, second or third day, is a perfectly safe practice. (4) Furthermore, in most women the habit of using the tepid shower or tub bath after the first day or two of the flow can with safety be acquired."

**The Streptococcus in Gynecological Surgery.**—Dr. Hunter Robb, of Cleveland, Ohio, stated that in order to arrive at some definite conclusions with reference to the *Streptococcus pyogenes* as a cause of death in his work, he had made an analysis of all his cases in which this organism had been found during the past six years. It was shown from observations that quite a large number of his patients died, and several were unimproved. It was also noticed that in the great majority of cases in which this organism was met with, there was a previous history of infection following labor, or an induced criminal abortion. In the past six years he had had 137 cases of abortion (including a few cases of labor) in which it was necessary to carry out some form of treatment. Of this number, 104, or 75.9 per cent., recovered; 17 or 12.4 per cent. were improved; 1 or .8 per cent. was unimproved, and 15 or 10.9 per cent. died. In 16 of the 137 cases the streptococcus was found. The total number of all his cases in which the streptococcus was found was 40, consequently those in which this organism was found following an abortion or labor formed 40 per cent. of the total number of streptococcus cases from every source. Of these 16 patients (streptococcus cases) following abortion or labor, 4 or 25 per cent. recovered; 3 or 18.75 per cent. were improved; 9 or 56.25 per cent. died. In the whole 40 cases from every source, in which the streptococcus was found, the results were as follows: Recovered, 20 or 50 per cent.; improved, 6 or 15 per cent.; deaths, 14 or 35 per cent. The streptococcus was found in the following combinations given in order of frequency: (1) *Streptococcus* alone; (2) *Streptococcus* and *Staphylococcus pyogenes aureus*; (3) *Streptococcus*, *staphylococcus aureus*, and *Bacillus coli communis*. In all these cases, except three, in which they were obtained from the vagina, the organisms were obtained from the uterus, the adnexa, the cul-de-sac, or from several of these situations. In other words, they were proved to be present in places which were admittedly not their normal habitat. In the past five years he had had 724 abdominal sections, with a total number of 32 deaths, or 4.43 per cent. In 7, or 21.9 per cent. of them, the *Streptococcus pyogenes* was demonstrated. In all there were 19 cases of abdominal operations in which the streptococcus was found. Of this number, 12 recovered, or 63.2 per cent., and 7 died, a mortality of 36.8 per cent.

**The Nature of the Indications for Operation for Fibroid Tumors of the Uterus.**—Dr. Chas. P. Noble, of Philadelphia, presented a table of the degenerations and complications in a series of 1,188 cases of fibroid tumors operated upon by Martin, Noble, Cullingworth, Frederick, Scharlieb, and in series reported by Hunter and MacDonald. Especial attention was called to the relative frequency of adenocarcinoma of the uterus as compared with epithelioma of the cervix. The deduction drawn from this fact was that fibroid tumors were a direct predisposing cause of cancer of the cervix. A.

careful consideration of the facts presented in the table, said the author, should convince anyone with an open mind that the classical teachings concerning fibroid tumors were erroneous. This teaching was that fibroid tumors of the uterus were benign growths, which usually produced but few symptoms, and which after the menopause underwent retrogressive changes, becoming smaller or disappearing; that the chief danger of fibroid tumors consisted in the fact that at times they caused hemorrhage from the uterus, and that rarely they caused trouble because of their size or because of pressure on adjacent viscera. An analysis of the 1,188 cases showed that because of the degenerations in the tumors, about 16 per cent. of the women would have died without operation; about 18 per cent. would have died from the complications present. In addition, it was well known that a certain percentage would have died from intercurrent diseases brought about by the chronic anemia present in many of these cases, and by injurious pressure from the tumors upon the alimentary canal and urinary organs. In brief, at least one-third of the women having fibroid tumors, as shown by the author's table, would have died had they not been submitted to radical operative procedures.

**The Treatment of Gonorrhea.**—Dr. Henry T. Byford, of Chicago, said there was dissatisfaction with prevalent methods of treating this disease. The desideratum was a local remedy that would rapidly destroy or remove the germs without injuring the protective epithelium, and a method of application that could be used by the patient which would not carry the germs to a deeper portion of the genito-urinary tract. He advocated prolonged irrigations with hot water as a basis, and spoke of frequent injections of hot water as a substitute for prolonged irrigations. He detailed his experience with urethritis in the male, and referred to hydrogen dioxide and unirritating germicidal solutions as substitutes for plain water injections, and gave their application to gonorrhea in the female. The advantages of this treatment, when used early, were summarized by him as follows: (1) It prevents the spread of the disease to adjacent parts; (2) it does not injure the epithelial covering, and it tends to limit the infection to the superficial areas; (3) it removes more germs and pus cells than either astringents or disinfectants can destroy; (4) it acts in the same way as constant irrigation, both in aborting and arresting the progress of the infection; (5) it can be used more frequently than astringents or strong germicides, so that the parts can practically be kept free from pus and germs all of the time, while the method of using germicides or astringents three or four times daily allows the germs and pus to accumulate and spread between injections. (6) In the male, and possibly in the female, peroxide injections may be substituted when the time and the facilities for the hot water treatment cannot be had. When the discharge has become scanty and the injections cannot readily be used so frequently, a non-irritating solution of a silver salt can follow each hot water or peroxide treatment. (7) It may be used in connection with alkaline injections for the dissolving of germs and culture material not eliminated by the douches. (8) It does no harm. It can be combined with the internal or local medication when it becomes impossible to carry it out with the necessary time-consuming detail. It exemplifies the superiority of aseptosis to antiseptosis.

Dr. Philander A. Harris, of Paterson, N. J., exhibited and described a new uterine obstetrical dilator and illustrated its practical features.

Niagara Falls, N. Y., was selected as the place for holding the next annual meeting, in May, 1905.

## THE AMERICAN MEDICAL ASSOCIATION.

*Fifty-fifth Annual Meeting, held at Atlantic City, N. J., June 7 to 10, 1904.*

### SECTION ON NERVOUS AND MENTAL DISEASES.

SECOND DAY—JUNE 8TH—(Continued).

(Continued from Page 1232.)

**Treatment of Aphasia by Training with Some Remarks on the Re-education of the Adult Brain.**—Dr. Charles K. Mills, of Philadelphia, said that the cerebral zone of speech, the areas and centers for concrete memories and abstract concepts, their relation to cerebral education, the various psychic centres and their subdivision were referred to in detail, after which the author considered the varieties of aphasia and the various methods of training the patient, including the repetition of words, letters and phrases, Wyllie's psychologic alphabet, grammatical training and the relation of writing to speech, followed by a résumé of his personal views in regard to a motor graphic center. This was followed by an exhibition of two cases, the first of which was a total motor aphasic, and in addition thereto had Jacksonian epilepsy, so that he could only say his own name, the diagnosis being lesion involving the third frontal convolution and adjoining region, which under a careful system of training had greatly improved. The other case was that of a man about forty years of age, who about seven months ago had an epileptiform attack followed by aphasic symptoms, from which he partially recovered, and later had an intensification of the attack at which time he was almost completely word, letter and number blind; this case has also shown considerable improvement under treatment. He stated that in his opinion the sensory aphasics improved most rapidly.

Dr. T. H. Weisenburg read a résumé of the literature on this subject.

Dr. Charles W. Burr, of Philadelphia, believed that the method to be pursued should be the same as is used in the education of children, such as showing them an object, calling the object by a certain name, writing down the name, and letting them draw a picture of it. He did not approve of the system of having them repeat monosyllables. As so many of the cases are due to specific disease, he felt unless syphilis could be excluded, it would be difficult to say just how much of the improvement was due to training and how much to the absorption of the exudates due to the toxins of the specific disease.

Dr. W. G. Spiller, of Philadelphia, considered that there are four elements bearing particularly upon the prognosis: (1) Age; (2) nature of the lesion; (3) extent of the lesion, and (4) intelligence of the patient. Traumatic lesions, he believed, were more hopeful than those produced by hemorrhage into the brain, reporting two cases, due to trauma, one resulting in word deafness, in which by operation a large cyst was removed from the temporal lobe on the left side, and the man by his own efforts recovered a great deal from his previous hopeless condition.

Dr. Punton, of Kansas City, Mo., referred to the scarcity of literature on this subject, and also raised the question as to whether the efforts put forth by the patient would have a tendency to bring on a second attack, in those cases due to embolism and thrombosis.

Dr. F. W. Langdon, of Cincinnati, Ohio, felt that possibly the entire improvement could not be attributed to any one factor, either education, medication or the action of nature. He then referred to the fact that the third frontal convolution was not a motor speech centre, but rather a language construction centre, and that the real motor centre is the lower Rolandic region. He did not, however, believe that grammar had anything



to do with the acquirement or reacquirement of language by a patient suffering from motor aphasia.

Dr. W. J. Herdman, of Ann Arbor, Mich., felt that the degree of recovery depended upon the capacity remaining after the organic disease, traumatism, etc. He believed that if there was any capacity remaining it was for the nouns and verbs or main parts of a sentence and that the adjectives, adverbs, prepositions, etc., must be added by education.

Dr. Charles K. Mills, in closing, stated that the education of an aphasic could not be exactly the same as was indicated for a child, for the reason that he had an advantage over the child, in that his brain was once thoroughly organized, and a disadvantage in the fact that the child in its education started out with a potential mechanism of speech in the cerebrum, unattacked by disease. He also reviewed the various form of lesions causing the condition and the prognosis in the different cases.

**Tuberculosis of the Nervous System.**—Dr. D. J. McCarthy, of Philadelphia, gave a résumé of the work done at the Phipps Institute, and the results of a study of 78 autopsies and 126 cases clinically considered. He considered, first, the organic lesions and their various subdivisions, and second, functional disorders, due to either toxins generated by the tuberculous process or to mixed infection, the clinical and pathological findings being set forth in detail.

Dr. David I. Wolfstein referred to tuberculosis as a cause for meningeal encephalitis, and believed that not only did tuberculosis produce the nodular lesions, but also a more diffused form of softening, believing that the mental disturbance depended largely upon the extensiveness of this diffusion.

Dr. Spiller referred to a case which had been diagnosed as brain tumor, and for which an operation was done, but which proved tuberculosis of the nervous system.

Dr. D. J. McCarthy, in closing, remarked the frequency with which tuberculosis extends into the meninges and produces hemorrhagic encephalitis.

**Facial Paralysis, Possibly Due to La Grippe.**—Dr. F. W. Langdon, of Cincinnati, reported the history of a patient, a male teacher, fifty-one years of age, married and in good health. The attack occurred after a journey of fifty miles, prior to which he had been suffering from occipital headache for five weeks. No cardiac disease or syphilis was present. The symptoms began with logophthalmos, and three days later there was inability to close the left eye, which afterwards extended to both eyes, and during the course of the attack there were slight dysphasia, marked dysesthesia, blurred speech, and defects in the taste. The knee-jerks were absent and the plantar reflexes were flexor in type and active. There was bilateral facial paralysis and the response of the muscles to faradism and galvanism was sluggish.

Dr. T. H. Weisenburg reported three cases of bilateral facial paralysis, one of which gave a history of disease in the male members of the family for two prior generations.

Dr. Hugh T. Patrick, of Chicago, reported a case of double facial paralysis occurring in a child in which the electric reactions were not the ordinary reactions of degeneration, the eye muscles are not involved, nor are the muscles of the extremities to any great extent, but there are general lassitude, weakness and general fatigue, in addition to the facial paralysis, which case he was rather inclined to diagnose as myesthesia gravis.

Dr. Coulter, of Omaha, Neb., reported a case of unilateral facial palsy occurring in a physician following la grippe. The physician realizing that he was contracting the la grippe had driven all day in doing his

work, resulting in this condition, the knee jerks were absent; there was a great deal of sweating, and both plantar reflexes were flexor in type.

Dr. Albert E. Sterne, of Indianapolis, Ind., referred to the case of a man who was thrown from a wagon striking on the back of the head a little to the right side, causing deafness in the left ear, paralysis of the left half of the face and loss of sensation in the right half of the body, in which case twenty years after under careful systematic treatment, the use of the facial muscles was recovered to a considerable degree, and the hearing and sensations on the right half of the body were restored to normal. Another case reported was that of a man who was stricken suddenly with symptoms exactly similar to poliomyelitis; later wasting of the muscles, which were paralyzed, and degeneration, which still exists to a large extent in the man's trunk and both halves of the face.

**Clinicopathologic Study of Hemiplegia with a Microscopical Examination in Eleven Cases.**—Dr. T. H. Weisenburg, of Philadelphia, gave a clinical report of the study of 150 cases of hemiplegia with especial attention to heredity, prehemiplegic and post hemiplegic pain, atrophy of the muscles of the paralyzed side, and the respiratory movements and trophic disturbances on the paralyzed side. In the pathological report particular attention was directed to the primary seat of the lesion, the degree of degeneration in the cerebral peduncle, the relative amount of degeneration in the direct and crossed pyramidal tracts with reference to the findings of Marie, Guillain and others, the state of the nerve cells of the anterior horns, and the conditions of the nerves and muscles on the paralyzed side.

Dr. Guy Hinsdale, of Hot Springs, Va., stated that he had frequently observed yawning accompanied by movement of the paralyzed arm or leg in a number of cases of hemiplegia, which, while he supposed was to be explained on the ground that it was a reflex condition did not have the characteristic quick movement of the knee jerk and other reflexes.

Dr. Hugh T. Patrick, of Chicago, Ill., cited the Jacksonian theory in explanation of the increase in respiration on the paralyzed side, which is that increased action of the muscles of the extremities on one side increases the action of the trunk muscles on the other side, which would therefore cause the weakness of the trunk muscles on the opposite from the paralysis.

Dr. Theodore Diller, of Pittsburg, Pa., believed that the sensory phenomena were present in many diseases which were attributed to pure motor disturbances, citing as instances thereof paralysis agitans and Landry's paralysis.

Dr. David I. Wolfstein, of Cincinnati, Ohio, reported two cases which had come under his observation in which the Babinski sign was present within one hour after the onset of the attack, and remarked upon the diagnostic value thereof when present early.

Dr. Coulter, of Omaha, Neb., reported a case of fracture of the skull, followed by coma and hemorrhage from both ears, in which the Babinski reflex was present within three hours after the accident.

Dr. Frank P. Norbury, Jacksonville, Ill., spoke of the hereditary character of the disease, and repoted an instance in which a physician, his father and grandfather had all died thereof.

Dr. Albert E. Sterne, Indianapolis, Ind., referred to the rise of temperature which is frequently present in the early cases.

Dr. A. C. Brush, Brooklyn, also discussed this paper, and Dr. Brainard reported the pathological results of autopsies on two cases of hemiplegia, the one occurring in a young woman during the menstrual period,



in which there was no cardiac lesion present, and in which he suggested the source of the clot might have been from the endometrium; the other occurring in a woman of about sixty years. In regard to the hereditary tendency, he reported the case of a man dying from this condition, whose male ancestry for three preceding generations had died from the same cause.

Dr. T. H. Weisenburg, in closing, stated that most of the cases were due to hemorrhage; that the paralysis was most marked in the distal ends of the extremities, and that in only 30 out of 109 cases was there any sensory disturbance. The Babinski reflex was observed in most cases within twenty-four hours; it was absent in three cases, and in two cases was present within twelve hours.

**Two Cases of Congenital Deformity, Possibly Due to Intrauterine Disease of the Spinal Cord.**—Dr. Charles W. Burr, of Philadelphia, reported these cases. The first patient was a man, fifty-five years of age, four feet tall. The head is practically normal; the skin is normal; no anesthesia; sensation preserved all over the body, the reflexes are present, and there was no clinical disturbance discovered; the legs and arms are deformed, and he is unable to walk on account of weakness of the muscles; the epiphyses of the bones are distinctly abnormal, and the skiagraph shows marked absence of lime salts in the bones of the hands. The other case was that of a male, aged twenty-three years, on which the shoulders, arms and forearms are deteriorated or never developed; the biceps-jerk is absent; there is no disease of the bones; there is very slight wasting in the left leg, which can only be detected by measurement. Several theories had been advanced as to the cause of the condition, among others, bilateral brachial palsy from birth, mal position in utero; but the author was rather inclined to believe that possibly the man had in utero disease of the anterior horns of the spinal cord.

Dr. F. X. Dercum, of Philadelphia, stated that he was quite familiar with the first case, and believed it to be due to disease of the bone, possibly associated with muscle and tendon disease. The other case he thought to be one of intrauterine poliomyelitis and could see no reason why the spinal cord should not yield to the toxic influences in utero, as well as in life.

Dr. B. Onuf, of Sonyea, N. Y., referred to a case in which there was a question as to whether the condition was due to congenital poliomyelitis acquired in utero or central neuritis, which he had studied clinically and pathologically, and after making five sections was in considerable doubt.

Dr. C. C. Hersman, of Pittsburg, Pa., stated that he believed any maternal impression would have to occur very early in life of the fetus. He reported the case in which the esophagus was entirely severed, which the mother attributed to the fact that she had seen a hog's throat cut while pregnant. He reported several other cases of abnormal fetal developments.

**Case of Spastic Diplegia Occurring During an Attack of Pertussis with Autopsy.**—Dr. J. H. W. Rhein, of Philadelphia, reported the history of a patient twenty months old, born after a normal labor and delivered without instruments, and had had no previous history of nervous disease; there were no cardiac symptoms, the lungs were normal and the eye-ground negative. The child's power of walking disappeared, and later there developed spasticity of the arms and legs, nystagmus, petit mal attacks and finally general convulsions just before death. Macroscopically the autopsy was negative, but microscopical examination revealed distention of the perivascular spaces, the vessels were surrounded with round cells, multiple small hemorrhages were found in the cortex, pons and cerebellum, and in

the cord there was degeneration of the crossed and direct pyramidal tracts.

Dr. T. H. Weisenburg referred to the case of a canary bird which had been in the house with children suffering from whooping-cough, developing a cough and finally dying from diarrhea, after glycerin had been placed in its drinking water. Examination of the brain of this bird showed the blood vessels to be very prominent.

Dr. Moore referred to the question which arises as to whether the nervous affection is due to toxins or mechanical irritation in case of severe nervous disease following any of the acute infectious diseases, and reported a case in which a child became totally blind following an attack of whooping-cough. Ophthalmoscopic examination was negative, and the child afterward made a complete recovery. He attributed the condition to minute hemorrhages in the brain.

Dr. J. H. W. Rhein, in closing, remarked that the literature did not contain any reference to whether the disease could be developed in the lower animals, which he thought would form a very interesting study.

**Encouraging Case of Locomotor Ataxia.**—Dr. Guy Hinsdale, Hot Springs, Va., reported the history of a patient who is engaged in a large canning factory and has twice been under his care, being able to resume his occupation about three months after the beginning of treatment in the first attack. He has been married eighteen years, has no children, uses alcohol and tobacco, but denies syphilis. The second attack developed about three years later, with severe gastric crises and abdominal pains. Under treatment by rest, hypodermic injections of mercuric chloride, strychnine and gradual feeding, in connection with massage, electricity and educational massage, he gained 46 pounds in nine weeks and showed great general improvement.

**Treatment of Acute Anterior Poliomyelitis by Nerve Anastomosis.**—This paper was by Drs. W. G. Spiller and Charles Frazier, of Philadelphia. It was read by Dr. Spiller, in which he stated that in poliomyelitis the motor nerve cells of the anterior horns in a limited area are destroyed, and the nerve fibers having their origin in these cells degenerate, and following the destruction of the nerve fibers, the muscles formerly innervated by these nerve fibers atrophy. He believed, if the persisting paralysis is slight, there is hope of recovery of function by anastomosis of the peripheral end of a diseased nerve with a normal nerve, but the success of the operation will depend on the degree and extent of the persisting paralysis, the time at which the operation is done and surgical technic.

Dr. Wharton Sinkler, of Philadelphia, believed this to be one of the most important advances in the treatment of poliomyelitis, and felt that the time would come when it would frequently be done. He also referred to the fact that a similar operation had been done in the treatment of facial paralysis.

Dr. Albert E. Sterne, of Indianapolis, Ind., felt that the method had many advantages over tendon transplantation, as in this way one establishes normal function in a set of muscles already in existence, whereas in tendon transplantation you disable to a certain extent a group of muscles. He also urged the early institution of treatment by means of electricity, massage, etc., in cases of poliomyelitis.

Dr. David I. Wolfstein believed that early interference in cases of anterior poliomyelitis was illogical, until it could be determined to what extent the cord was diseased and to what extent the muscles were going to atrophy. He also believed tendon transplantation to be superior to the method of nerve anastomosis outlined by the author.

Dr. Howell T. Pershing, of Denver, Col., felt that while we should be on the lookout for every improvement in the treatment of this disease, the results of such an operation would have to be proven by more than one or two cases before we could come to such a decision. He believed that the use of electricity and massage or any other mode of nerve irritation was contraindicated in the early stages of the disease.

This paper was also discussed by Dr. T. H. Weisenburg, of Philadelphia, and Dr. C. C. Hersman, of Pittsburg, Pa., and Dr. Spiller, in closing, stated that he believed that in many of the cases the paralysis is limited to a small number of the muscles, and felt that the operation should be performed only in selected cases. He stated that the longer the operation was delayed the less likely it is to be successful and for that reason he had named the period of six months.

**Some Unusual Forms of Multiple Neuritis.**—This was read by Dr. Wharton Sinkler, of Philadelphia, in which he stated that the condition has only comparatively recently been recognized, the most common type being due to alcoholism. He stated that there are many forms of peripheral paralysis, which are due to multiple neuritis, and not recognized as such, among which are arsenic, used medicinally, lead medicinally, or as a cosmetic or absorbed in the occupation, septic multiple neuritis occurring after miscarriage, abortion or labor, and reported several cases illustrating each of these conditions.

Dr. J. H. W. Rhein, of Philadelphia, reported a case of neuritis occurring two weeks after childbirth in which the patient had had very little fever and no evidence of puerperal spasm.

Dr. Angell, of Rochester, N. Y., reported a case of neuritis from lead poisoning from chewing the lead seals from cars by an employee of a tobacco factory, who had done this for a period of two or three years, chewing two or three each day. He also referred to the case of a farmer in whom the disease had resulted from kneeling on the ground husking corn.

Dr. T. H. Weisenburg, of Philadelphia, referred to the cases of beriberi, which he had an opportunity of studying while an army surgeon in the Philippines. He stated that the disease seems to come from the place where the prisoners were confined, and that when they were removed to the other side of the prison there would be no more cases develop. He mentioned two forms, a dropsical form and a dry form, the latter giving the most grave prognosis.

### THIRD DAY—JUNE 9TH.

**Dynamometer for Measuring Perspiration.**—Dr. H. E. Wetherill, of Philadelphia, said that the value of some method for the measuring the perspiration in such diseases as exophthalmos, diabetes insipidus, uremia, fevers, etc., was evident. He then exhibited a completed instrument and several charts showing the results by the different methods.

**Minor or Borderline Psychoses.**—This paper was read by Dr. Frank P. Norbury, of Jacksonville, Ill. The author reported several cases, considering in detail the various symptoms, and outlined the treatment for the condition, prominent factors in which were rest, isolation, careful symptomatic treatment during the period of evolution of the nervous, and watchfulness of the physician during convalescence. He believed the disease might occur either in continuous drinkers or periodic delinquents, and was rare in acute alcoholism, occurring most frequently after adolescence up to forty or fifty years of age. Early treatment is successful in most cases, although the prognosis depends to large degree upon the inherited frailties and moral developments.

**Psychic Force.**—Dr. Brooks Beebe, of Cincinnati, Ohio, gave full consideration to the nature, force and mode of expenditure of this element, commenting particularly upon the influence of one mind upon another; after which he dwelt upon the value of suggestive therapeutics and urged the necessity for greater knowledge of and more frequent use of this agent by the physician.

This paper was discussed by Drs. Arthur Conklin Brush, of Brooklyn; Howell T. Pershing, of Denver, Col.; W. J. Herdman, of Ann Arbor, Mich.; James H. McBride, of Pasadena, Cal.; Albert E. Sterne, of Indianapolis, Ind.; F. W. Langdon, of Cincinnati, Ohio; Richard Dewey, of Wauwatosa, Wis.; E. B. Angell, of Rochester, N. Y.; A. A. Searcy, Alabama; David I. Wolfstein, of Cincinnati, Ohio; Theodore Diller, of Pittsburg, Pa., and closed by Dr. Beebe.

**Have Drug Habits a Pathologic Basis?**—Dr. Albert E. Sterne, of Indianapolis, Ind., said that the hereditary and acquired influences in the development of the habit should be carefully considered, and attention directed to the fact that the physician, on account of his knowledge of the drugs, was frequently the easiest victim. He then considered the pathology under the heads of (1) Hereditary or psychocellular; (2) Acquired or pseudopathological; (3) Effect upon the system or true pathology. The pathological changes in alcoholism and the drug habits were compared and the fact noted that the habitual alcoholic shows more effect than the periodic user.

Dr. Pressey, of Toledo, Ohio, did not look upon heredity *per se* as an important factor in the development of alcoholism and the drug habits, but considered that they were more due to the situation, vitality and nerve force of the patient.

Dr. Sterne, in closing, considered the possibility of the chemical union of the nerve cells with the alcohol and dwelt at some length on the pathology of the condition.

Upon motion of Dr. Smith Ely Jelliffe, of New York, the Chair was instructed to appoint a committee to investigate the pathology of the opium habit. This committee was announced later to consist of the following: Drs. Smith Ely Jelliffe, Brooks Beebe and Albert E. Sterne, and one other.

**Case of Locomotor Ataxia with Tremor Resembling Paralysis Agitans.**—Dr. John H. W. Rhein, of Philadelphia, reported at length the clinical and pathological findings in a case of the disease, occurring in a man aged fifty-eight years. He stated that in addition to the usual symptoms of locomotor ataxia, there was present a tremor resembling paralysis agitans, but none of the other characteristic symptoms of Parkinson's disease. The characteristic lesions of locomotor ataxia, together with the signs of a general arteriosclerosis were revealed at the autopsy, but the lateral columns were unaffected.

**Should Inebriates Be Punished by Death for Crime?**—Dr. T. D. Crothers, of Hartford, Conn., said that inebriety in all its conditions is palsy and means serious impairment of the brain and its functional activities. He stated that the relation of free will and conduct are always obscured and free will and reason are abnormal; the brain anesthetized both locally and generally and profound psychosis exists. He believed punishment of inebriates for crime should be abolished and cited statistics tending to show that such punishment increased the crimes committed.

Dr. Brooks Beebe, Cincinnati, Ohio, did not recommend the abolition of the punishment of inebriates for crime, and felt that while the medical profession were agreed as to some grade of irresponsibility, yet the public needed protection.

Dr. S. M. Crowell, Charlotte, N. C., commented on the value of institutional treatment of inebriates, and referred to the fact that a bill was in course of preparation looking forward to the establishment of such an institution in Charlotte.

**Autopsy Findings in Epilepsy.**—Dr. B. Onuf, of Sonyea, N. Y., based his paper on autopsies performed at the Craig Colony. He exhibited a chart showing in detail the results of fifteen autopsies, giving in each case the age at onset and duration of the epilepsy, approximate number of attacks during life, distinguishing *petit mal* and *grave mal*; heart lesions (there being but one case that did not show some valvular affection) gross lesions in both hemispheres, thalamos, axis and cerebellum. He exhibited several photographs taken of the brains, both before and after the removal of the meninges, and stated that the cause of death in nine out of fifteen of the cases had been pneumonia. He also remarked that he had secured good results in the preservation of the bodies by means of an injection of 12 per cent. solution of formalin, and in conclusion urged careful auditory, ocular and physical examination and record.

Dr. W. G. Spiller, of Philadelphia, commented on the value of the clinical and aural symptoms and did not believe in stripping the meninges before studying the brain, feeling that careful study should also be made of it.

Dr. Onuf, in closing, remarked that while the pia was removed before the photographing of the brain, it had been preserved and studied.

**Large Tumor of the Frontal Lobe.**—The subject of Drs. Philip K. Brown, of San Francisco, and W. W. Keen, of Philadelphia. Dr. Keen read the paper, in which the clinical and pathological history and the operation were carefully outlined. The patient began in March, 1903, with bilious attacks followed by paralysis of the external rectus muscles, but no change in sensation. Complete bilateral anosmia developed about June and by the middle of July there had occurred a progressive loss of vision and mental dulness, progressive ophthalmoplegia and beginning left ophthalmos. The administration of Hg and KI produced no effect, and complete blindness followed the development of tenderness and pain on the left forehead and temple. A cerebral tumor of the left frontal lobe was diagnosed, and on August 5, an operation by means of a large osteoplastic flap of the frontal region was performed, which revealed the fact that the tumor, which was of the sarcomatous variety, had perforated the skull at several points and broken into the frontal sinus and ethmoidal cells. Owing to the size of the tumor removal was impossible, but in order to diminish pressure a portion was taken out. Recovery from the operation occurred, but local infection through the nose followed seven weeks later by coma and death took place.

**Brain Tumor with Progressive Blindness.**—Drs. W. C. Kendig and David I. Wolfstein, of Cincinnati, Ohio, reported this case. The patient was a traveling salesman, fifty-eight years old, with a history of syphilis and alcoholism in whom a diagnosis of possible paresis had been made, but which the autopsy revealed to be due to brain tumor.

Dr. Theodore Diller, of Pittsburg, Pa., reported several cases of brain tumor, in one of which the brain was eroded and there were protrusions and in another in which the bone was thickened and there were also protrusions. He also remarked the fact that Sir Victor Horsley performed operation of this character without the use of sutures in the dura mater.

Dr. Charles K. Mills, Philadelphia, Pa., commented on the differential diagnosis of brain tumors, and recommended early surgical interference, believing that an

exploratory operation was justifiable in doubtful cases. He then referred to the fact that brain tumors of varying density and size might occur without producing headache, or any of the classical symptoms, or only one thereof, such as optic neuritis or optic atrophy.

Dr. Albert E. Sterne, of Indianapolis, Ind., reported the case of a station master who suddenly complained of pain in the left frontal region, accompanied by a delusion that he had made mistakes in his work and was to be arrested, etc. After going south for a vacation he became worse, was admitted to the sanitarium, and operation planned for the next day, prior to which time he had two convulsions and died, the autopsy showing infiltrating tumor of the brain.

Dr. F. W. Langdon, of Cincinnati, Ohio, reported in detail the clinical history of the case referred to in Dr. Wolfstein's paper, including the ocular and clinical symptoms for a number of years previous to his death.

Dr. F. X. Dercum, of Philadelphia, referred to two cases of cerebral tumor, in the first of which no pain was observed and in the other there was slight pain over the occiput, in each of which the tumor proved to be a sarcoma, and in the latter it was gangrenous.

Dr. W. G. Spiller, of Philadelphia, referred to the frequent difficulty of early diagnosis and reported several cases, among them being one of tumor over the pons extending down into the spinal cord, and the other in which there was thickening of the bone over the tumor due to infiltration of tumor.

Dr. B. Onuf, of Sonyea, N. Y., referred to cases of optic neuritis, in which accurate localization of the tumor could not be made, and raised the question as to whether it was advisable to operate at once in these cases, or wait until the tumor could be localized.

Dr. W. W. Keen, in closing, stated he believed it was advisable to insert sutures in the dura, even although the operation was slightly prolonged thereby, in order to prevent adhesions. He urged the necessity for early operation, not only in cases where the tumor has been accurately localized, but also in optic neuritis, such as the cases cited by Dr. Sonyea, and referred to cases in which the headache had been relieved by opening of the skull, although no tumor was removed.

**Hysterical Delirium; Report of Four Cases.**—Dr. Theodore Diller, of Pittsburg, stated that "insanity" as an expression of hysteria is apt to pass unrecognized as such when the patient is seen by two sets of observers—those inside and those outside of the asylum, as neither set of observers knows the case in its entirety. He referred to the fact that the delirium described by the Charcot school as the last phase of a "grand" attack of hysteria might occur as a more or less isolated symptom, and be so prolonged as to constitute a type of insanity, but that it exhibited certain marks which may lead to its recognition as an expression of hysteria. This he followed with the reports of four illustrative cases, all occurring in women of various ages.

Dr. Howell T. Pershing, of Denver, Col., reported the case of a young school girl, who first became unduly anxious about her school work, which was followed by talking much about animals and other nonsensical remarks, succeeding which she developed a state of delirium and continued therein for ten or twelve weeks, afterward making a good recovery, but having very little recollection of what had occurred.

Dr. F. X. Dercum, of Philadelphia, remarked upon the fact that cases of hysterical delirium were usually of short duration and felt that the temperature rise in one of the author's cases would rather point to an infection.

The discussion was closed by Dr. Diller.



**Relation of States of Apprehension to Cardiac Disturbance.**—This paper was read by Dr. William Rush Dunton, Jr., of Baltimore, Md., his observations being based on a study of twenty-five cases in the Shepherd Hospital and twenty in the Johns Hopkins. In the Shepherd hospital cases, five showed apprehension to a marked degree, three of which had cardiac lesions, and of the remaining cases five had marked cardiac lesions, but had never showed any signs of apprehension. Out of the Johns Hopkins Hospital cases eleven showed apprehension, in three of which there were various heart lesions and dyspnea.

**Officers.**—The officers of the Section for the ensuing year are as follows: Chairman, Dr. James H. McBride, of Pasadena, Cal.; Secretary, Dr. David I. Wolfstein, of Cincinnati, Ohio; Delegate to House of Delegates, Dr. F. W. Langdon, of Cincinnati, Ohio.

#### JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

*Regular Meeting held April 18, 1904.*

**Visceral Crises in Connection with Skin Lesions.**—Dr. Osler discussed the surgical importance of this affection. He first gave an outline of the principal causes of colic, dividing them into five groups as follows: (1) The intoxications (lead, uremia and morphine); (2) functional and organic diseases of the nervous system (hysteria, tabes, etc.); (3) supradiaphragmatic diseases (pleurisy, pericarditis, angina, etc.); (4) disease of the abdominal organs; (5) disease of the pelvic organs.

The first case described was a girl, aged seventeen years, who had been admitted to the hospital for abdominal pain, which for six months previous to admission had recurred frequently in the left epigastrium and side. An abdominal section had been done, but the condition of the abdominal organs had been found absolutely negative. The patient's knee-joints were swollen and tender, but there was no skin eruption, and examination was negative. She left the hospital well. Two weeks later she returned with recurrence of the pains, with nose-bleed and with one purpuric spot on the left flank. In the Johns Hopkins Hospital a case of hematuria with recurrent "kidney colic" accompanied by erythema and angioneurotic edema has occurred in the past years, and two other cases of abdominal colic with skin lesions. Several similar cases have been recently reported in the *Journal of Cutaneous Diseases*. The first was a boy, aged five years, complaining of abdominal pain, who was operated on for symptoms of intestinal obstruction. No obstruction was found, but in two places the intestine showed hemorrhagic infiltration, and the next day a marked purpuric rash appeared. The second case, a boy of seven years, with purpura and bloody stools, died. At autopsy, besides an intussusception, hemorrhages were found into the peritoneum. In the third case of severe recurring abdominal pain, congestion of the bowel near the ileocecal valve was found at operation and two days later a crop of purpura appeared. The boy recovered, but the trouble recurred, bloody stools appeared and another purpuric rash. The cases may be divided into six groups: (1) Colic with angioneurotic edema (Quincke's disease). This often shows a tendency to occur in families, as illustrated by the Rush family, of Bordentown, N. J., in which several generations were affected; (2) colic with urticaria; (3) colic with purpura. This symptom complex, in which abdominal pain, purpura and arthritis occur, is known as Henoch's purpura. (4) Colic with fugitive erythema. (5) Colic with combinations of skin lesions in the various attacks. (6) Long continued recurrent colic, with skin lesions

appearing very late in the disease. Of 29 cases, reported by Osler, seven died, all of a complicating nephritis.

**Henoch's Purpura.**—Dr. Cushing referred to a patient who had been admitted to the surgical side of the hospital with pain, tenderness and a leucocytosis. She was prepared for operation, with the idea that there was some acute abdominal trouble, but a bilateral purpura was discovered accidentally, a diagnosis of Henoch's purpura made, no operation done and patient recovered. Dr. Atkinson referred to a case of his own, in which there was recurrent abdominal pain closely resembling attacks of gall-stone or kidney colic. The appearance of a marked erythema, however, made it clear that the case was one of a visceral crisis accompanying a skin lesion. He said that he had also seen the condition after the administration of the antitoxin of diphtheria. In this patient a violent erythematous urticaria appeared over the whole body eight days after treatment. With it there was edema in both eyelids and a slight arthritis. The symptoms promptly disappeared.

Dr. McCrae referred to the association in these cases of constipation with the abdominal pain. This was especially noticeable in the first case reported by Dr. Osler, and as a rule in these patients the pain disappears when the bowels move. It may well be, if the pathology of the condition is some sort of a hemorrhage into the bowel wall that the transudation accompanying catharsis gets rid of this exudate and in that way relieves the pain.

**Immunization of the Dysentery Bacillus by Its Growth in Agglutinating Serum.**—Dr. Marshall and Dr. Knox reported work which they have recently done in this line. The work was done to see if experimental corroboration could be given to the suggestion made by Dr. Welch in his Huxley lecture, that one form of immunity was due to a change not in the cells of the body, but in the invading bacteria themselves. The work was done by injecting pure cultures of the dysentery bacillus into bouillon tubes containing a small amount of serum which would agglutinate these bacilli. It was found by subsequent study of the organisms so treated that the bacteria had been changed so that they could not subsequently be agglutinated by the same serum; in other words, that their receptors had been either lost or so changed that they were no longer susceptible for this agglutinin. Study of the serum itself after centrifugalization showed that the change had not occurred there for it still continued to clot inoculations of organisms from fresh cultures. The same experiment was subjected to several modifications in order to test it in every possible way and control tests were made in every case. The organisms were also studied after transfer through a series of about eighteen tubes. The work showed that there is a type of immunity due to a loss of susceptible receptors. The most frequent type, however, is, of course, that in which immunity is due to an overproduction of antibodies. These experiments may explain the existence of so-called paratyphoid and paracolon bacilli, which would then be understood to be merely immunized forms of the organisms themselves.

*Stated Meeting held Monday, May 2, 1904.*

**Hydrocephalus.**—Dr. Cushing showed a negro baby of eight months with this disease. The patient, the second child of healthy parents, had shown signs of this condition for three months and at present the parietal bones were 10 cm. apart. All the separate cranial bones could easily be outlined by palpation. The contained fluid was apparently under

great tension and the child's head had been tapped—200 c.c. of clear fluid having been drawn away from the ventricles. Circulation of the cerebrospinal fluid probably takes place from the choroid plexus to the longitudinal sinus and thence out through the sinuses to the circulating blood and the heart. The escape has usually been thought to take place via the Pacchionian bodies, but as these are not present in young infants or in anthropoid apes, and as complete injections are possible in both, this idea is probably wrong. Internal hydrocephalus is certainly due to some obstruction but Dr. Cushing doubted that this obstruction is situated at the foramen of Magendie, as is usually supposed. The operation now done is a lumbar one. A preliminary lumbar puncture is first done to make sure of a connection between the ventricles and spinal canal. The fluid is usually found to be under great tension. A trephine hole is then made in one of the lumbar vertebrae by means of an abdominal section, a silver drainage tube inserted and the spinal canal thus permanently connected with the postperitoneal loose connective tissue. Dr. Cushing has operated on four cases in this way. The first died of intestinal obstruction, the second and third immediately after the operation, but the fourth is now living (six months after operation), and the head remains nearly normal in size.

**Chronic Alcoholism in Bellevue Hospital.**—Dr. Lambert reported a review of his experience in this institution. In the past nine years 51,000 alcoholics have been treated there and of this tremendous number 66 per cent. were between thirty and forty-nine years of age. Delirium tremens is usually thought of as primarily a nervous condition; but the effect of alcohol on the heart and circulation is its most important effect. So far as the life of the individual is concerned, alcohol gives an early vascular dilation. It causes a fall in temperature (the lowest temperature recorded in this series was 80° F. by rectum). There is a direct or indirect stimulation of respiration and an inhibition of proteolysis when liquors are drunk rich in alcohol or in extractive content. A moderate amount probably increases digestive powers. As a food it takes the place of an equal amount of isodynamic carbohydrate and so protects the proteids; but in large doses it increases the proteid catabolism. A series of 125 cases was studied carefully by Dr. Lambert. He found that, as a rule, male alcoholics live longer than female. The autopsies showed frequent heart lesions. Brown atrophy and fatty degeneration often occurred. In the lungs edema and congestion were most frequently seen. In the liver fatty degeneration was found in about 75 per cent. of the cases. Cirrhosis was frequent, though it is interesting that this condition has never been experimentally produced in animals. The liver was normal in no case. Chronic fibrosis was the commonest condition seen in the pancreas. The kidneys were never normal, the nephritis being chronic in all but two patients and the parenchymatous variety being most frequent. In the stomach atrophic gastritis was found in 50 per cent. of the cases. Atrophy of the ovaries was frequently seen. The brain was almost always edematous; acute and chronic meningitis occurred frequently, and atheroma of the cerebral vessels was not unusual. The essential pathological processes caused by alcohol in the various organs of the body are hyperemia, degenerations (particularly of the fatty kind), and connective tissue proliferation. The cases are often treated entirely for their nervous symptoms when the circulation needs treatment most. The symptoms vary markedly with idiosyncrasy and with the dilution of

the alcohol used. The habit of chronic alcoholism is often started quite young—in many patients of this series before twenty-one years. The drug is taken not for its taste but for the narcotic effect—that is either to produce certain feelings of artificial well-being or to drown sorrows, pain, etc. It is not the fusel-oil but the larger amount of alcohol for the same money which makes cheap whisky so dangerous. By the coating of the tongue and the character of the tremor the length of a spree may be quite accurately estimated. Hallucinations of sight are most frequent and of smell quite rare, the most characteristic feature being the belligerent attitude which the patients assume toward their delusions. An acute infection or a blow on the head may bring on delirium tremens in a moderate drinker. Beer causes the condition slowly but it leaves as slowly. Patients who drink absinthe are particularly liable to convulsions. In this series the mortality was 3 per cent., but in the cases in which ergot was used it was only 1½ per cent.

Dr. Welch referred to the complete report of the Committee of Fifty on the physiological effects of alcohol. It was found that in rabbits receiving daily intoxicating doses of alcohol, though some died of alcoholism, many lived healthy for periods as great as three years. The changes in the ganglion cells were among the most frequent pathological conditions found in the central nervous system.

**Cystinuria.**—Dr. Campbell reported on a study of this condition, in which it was found that cystin probably represents a middle product in the metabolism of sulphur.

**Distomiasis.**—Dr. Emerson referred briefly to a case of pulmonary distomiasis, reporting the case for Dr. Stiles.

## BOOK REVIEW.

**COMMONER DISEASES OF THE EYE; How to Detect and How to Treat Them.** By CASEY A. WOOD, C.M., M.D., D.C.L., Professor of Clinical Ophthalmology in the University of Illinois, etc., and THOMAS A. WOODRUFF, M.D., C.M., L.R.C.P., Professor of Ophthalmology in the Chicago Post-Graduate Medical School, Chicago, etc. G. P. Engelhard & Co., Chicago.

THIS little book is admirable in its purpose and execution. The authors state that it is intended to consider ophthalmology from the standpoint of the physician in general practice. It is proposed, they state, mainly by describing only the commoner diseases of the eye, never using a technical term when a simpler word is available, by numerous illustrations, synopsis headings, and a complete reference index, to popularize a study that is often considered difficult and unprofitable. The illustrations are excellent with a few exceptions, in which too much seems to have been attempted.

In a book with such a modest purpose, it would seem that less stress might have been laid on operative measures, and perhaps more attention given to the observation of variations from the normal. The description of ophthalmia neonatorum with its treatment, of trachoma, and of diseases of the cornea, should be especially valuable to the general practitioner.

The chapter on glaucoma is good, and the operative treatment is given sufficient space to enable the general practitioner to estimate the gravity of the condition. The method given on p. 262 styled "An easy method of diagnosing the commoner forms of inflammation of the eye" is excellent as far as it goes, and should be committed to memory by all physicians, but it is a matter of grave doubt whether in its application it would be always easy.